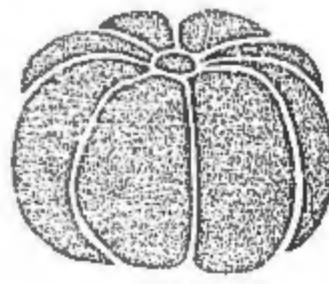
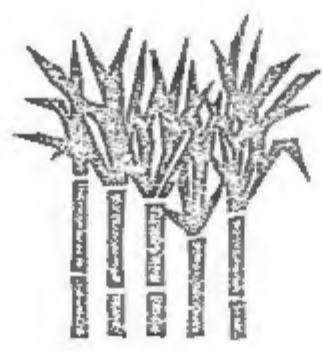
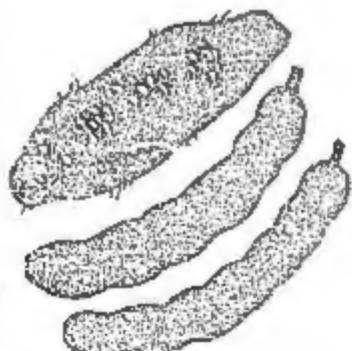
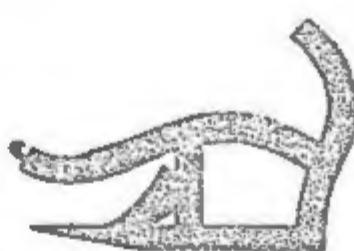
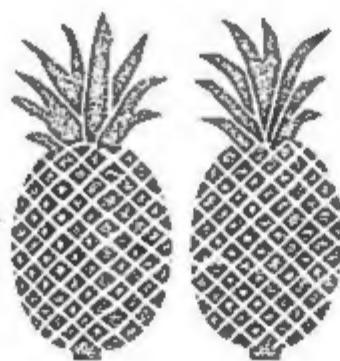
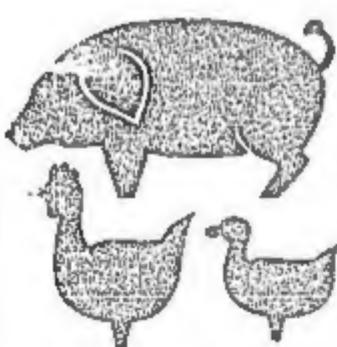
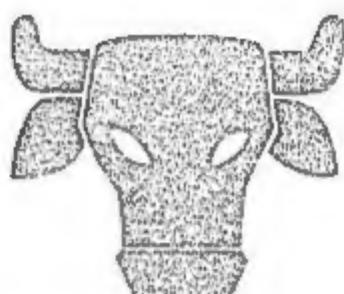
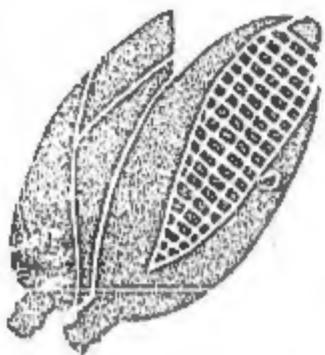


Ministry of Agriculture

Annual Report 1979



REPUBLIC OF THE PHILIPPINES

Ministry of Agriculture

Annual Report 1979



AGRICULTURAL EXTENSION DAY

The

MABUHAY!!!

Ex: "UGNAY at GABAY sa KAUNLAHAN"

16 JULY 1980



Introduction

Food, being life itself, is literally the most important commodity. Deprived of the right to food, man knows no other. For the hungry, there is no dignity, no human rights, no rule of law, no happiness.

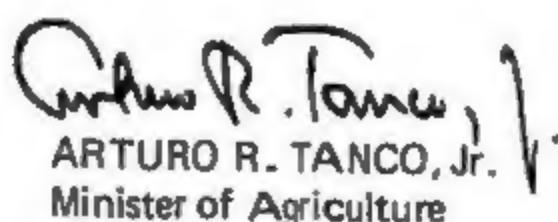
The Ministry of Agriculture during the period under review played an important role in cushioning the mounting inflationary pressures by alleviating the masses from the compounded miseries of hunger, malnutrition and poverty. The intensified collaboration between public and private institutions focused on the areas of food shortages, malnutrition and rural development and accelerated the flow of farming knowledge into field practices to enhance the quality of life of the Filipino farmer and his family. The expansion of the technological transfer mechanism is evident in the food production system which was initiated before the end of the decade and has afforded the Ministry of Agriculture the opportunity to shift its thrusts towards the production of cheap but nutritious and easy-to-grow food crops and import substitutes not only to conserve and increase foreign exchange earnings, but also to foot the country's increasing oil bill.

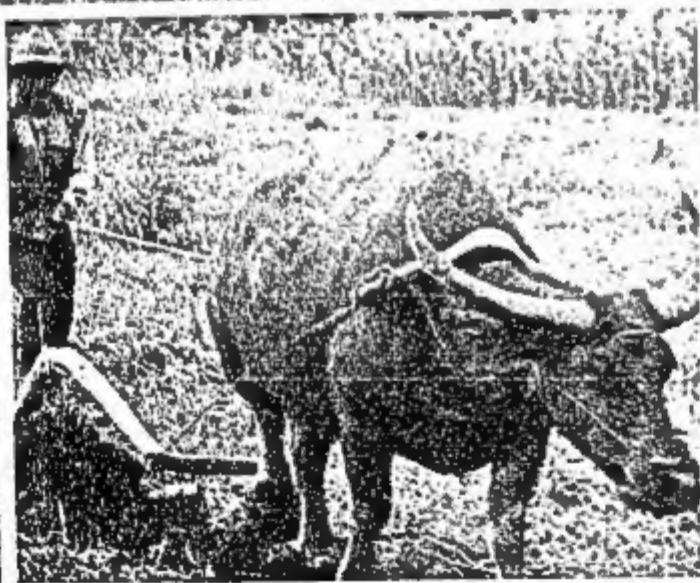
The Ministry of Agriculture has every reason to be optimistic in the 80's. Its structural model of

collaboration and coordination symbolizes the very essence of cooperation — the "Bayanihan Spirit." This optimism, however, must be tempered by past experiences and a brief outlook of the history of agricultural development. Experience has taught us to accept any task and to organize any part of our resources to help ease hunger and economic dislocation.

During the late 70's, our country adopted a universal scheme into what was then called "WAR AGAINST HUNGER." As a symbol of purpose and commitment, it became the key to the overall government's drive for food self-sufficiency in spite of the limited manpower and financial resources available to the agriculture sector.

Thus, we are happy to present this Annual Report for Calendar Year 1979, which summarizes the activities and accomplishments of the Ministry of Agriculture's programs and projects under the main thrusts, to wit: Rice, Corn and Feedgrains, Livestock Development, Nutrition, Agribusiness, Special Programs, Integrated Area Development and Export Crop Development. Hopefully, this report will present a comprehensive picture of the status of Philippine agriculture today to serve the needs of government agencies, private institutions and the general public.


ARTURO R. TANCO, Jr.
Minister of Agriculture



The Ministry of Agriculture: Policies, Directions and Programs

General Objectives

The Ministry of Agriculture seeks to accelerate agricultural development through increased and increasing productivity and farm incomes, and improving the overall socio-economic condition in the rural areas. It endeavors not only to increase food production, but also to bolster efforts designed to expand the production of traditional and non-traditional crops for export and import substitution.

Despite tremendous odds along the way, the Ministry of Agriculture has, in the recent past, given priority to the demand of national development particularly in attaining self-sufficiency in food production, intensification of export crop diversification, and in the commercial-scale production of such basic commodities as coffee, cacao, cotton and rubber.

The country has achieved self-sufficiency in rice and has a fast growing boom in fruit exports as well as in traditional dollar earners like sugar, coconut, dairy and tobacco. Having lacked the country's raw materials, the Ministry of Agriculture is now giving substantial impetus to the development of nutritionally-rich food particularly those rich in protein like pork, chicken and eggs, dairy, beef and carbohydrates, aside from fish to reduce food costs. To help save precious exchange, it continues to pursue a scheme calling for the replacement of dollar-drawing imports and at the same time developing traditionally-imported commodities which can be produced locally, primarily cotton, feedgrains, milk and wheat. The scheme also seeks to develop cheap and indigenously-agricultural products which can be used as substitutes for imported oil, like cassava for atcoips, jipiti for dendro thermal plants, and hog manure for biogas. Given this momentum, the Ministry of Agriculture is now in a position to attend to the

requirements of stability. There is time for advancement and a time for consolidation. After the advancement made in recent years, the Ministry of Agriculture has been consolidating, and will continue to consolidate, its position as food provider to our ever-increasing population.

During Calendar Year 1979, the sustained efforts of the Ministry of Agriculture to attain its objectives in support of national priorities which resulted in substantial achievements and accomplishments were undertaken under the following programs and projects:

RICE, CORN & FEEDGRAINS PROGRAM

a. Rice (*Masagana 99*)

From the time the *Masagana 99* rice production was launched by President Ferdinand E. Marcos in 1973 as a "program for survival," a significant yearly average in palay output of 0.5 per cent per annum has been realized. For Crop Year 1978/9 (July 1978 to June 1979), the Philippines produced an exceptional crop of 163.6 million cavans of palay, or an increase of 4.4 per cent over that of last year. This year's increase, together with the surpluses in the last two years brought to 1.4 million tons the total palay inventories, which is fully 22 per cent over the 1978 inventory. Of this inventory, the country's exportable surplus amounted to 380,000 metric tons (M.T.) of which 179,000 M.T. has been committed. As of December 1979, the country's rice stock (buffer stock in households, government and commercial warehouses) totalled 1.7 million tons, which is 17 per cent over that of last year's. Accordingly, the bright rice picture in 1978/9 was due to the fact that while three successive typhoons hit the main season crop in Luzon, excellent main season harvest in the Visayas and Mindanao regions more than made up for the losses in Luzon.

b. Corn & Feedgrains (*Maisan 77*) Program

This program was launched in 1977 primarily intended to attain self-sufficiency in white corn, yellow corn and sorghum for human consumption, starch manufacturing, animal feeds and also for export. Off to a sluggish start during its first year of operation due mainly to recurring problems and constraints on low repayment, limited credit funds, low market prices and erratic weather conditions, this program perked up with a creditable performance as it entered Phases IV-A and IV-B in 1979, giving the country its first sample in corn self-sufficiency.

While the country imported 56,000 metric tons of yellow corn, the total domestic production alone of 3.17 million tons was 1 per cent over the country's requirement of 3.13 million tons. As a result of increased production over the last few years and the recent shift to white corn for animal feed, yellow corn imports had steadily been decreasing from about 160,000 tons in 1976-77 to 56,000 tons in 1978-79. In fact, because of our surplus in white corn as feedgrain, the country was able to start exporting its yellow corn to Taiwan in 1979 and increase its foreign reserves.

Based on BAEcon's November 1979 estimates, corn production (white and yellow corn) for crop year 1979-80 is forecast at 3.21 million metric tons or 1.4 per cent over the previous year. With a beginning inventory of 272,000 metric tons and the estimated harvest of 3.21 million tons, the country expects to end up with a surplus of 296,000 tons or a 33-day supply by the end of June 1980.

With the country now self-sufficient in corn and with the increasing demand for this commodity by ASEAN-member countries, Maisan 77 faces new challenges in developing new production and marketing systems to place the country in a better position to compete in the export market.

LIVESTOCK DEVELOPMENT

a. Beef/Carabef

In 1979, the livestock industry saw the fourth year of implementation of the 10-year Beef/Carabef Program. This program which generates renewed efforts of production, marketing and providing credit to the industry, is aimed at reducing beef imports and bringing the country closer to achieving self-sufficiency in beef and carabef by 1985.

The program's components include research and development, animal disease control, extension services, forage and pasture development. (Please refer also to Bureau of Animal Industry accomplishments.)

One of the major undertakings along this line is the launching of the Bakaheng Barangay Program launched in 1977 designed to solve the small farmer's problem of lack of financing through supervised credit scheme for cattle fattening. Originally funded at P4 million, the seed fund for Bakaheng Barangay was increased to around P11 million at year's end. The number of participating farmers rose to over 100 per cent from 15,397 in 1978 to 32,388 this year. Animals financed, on the other hand, expanded threefold from 25,533 in 1978 to 76,328 in 1979 with total loans amounting to P141.9 million. There are at present 233 rural



banks in 46 provinces participating in the Bakahang Barangay Program.

The effectiveness of this program can be gauged by the increase of eleven more livestock auction markets established by the Ministry of Agriculture in 1979, bringing the total to 54 such markets throughout the country. In the same year, the number of abattoirs accredited by the National Meat Inspection Commission (NMIC) was brought to 72. Nine of these were classified as Class AA, 16 as Class A, and 47 as Class B.

Despite a five per cent fall in the country's 1979 carabao population (from 2,958,710 in 1978 to 2,807,380 in 1979) and a negligible decrease in cattle (from 1,820,210 in 1978 to 1,808,810 in 1979) as forecast by the Bureau of Agricultural Economics, tremendous efforts had been exerted by the MA to improve the situation. Such activities, among others, include the insemination by artificial method of some 6,029 heads of cattle and 1,399 carabaos (as of December 31, 1979) under its stock improvement campaign, and the nationwide dispersal to farmers of 9,752 heads of cattle; 1,130 carabaos of improved breeds; 11,802 swine; 176 ducks; 25 rabbits; and 531 goats, which brought to a total of 31,544 heads at year's end.

b. *Dairy*

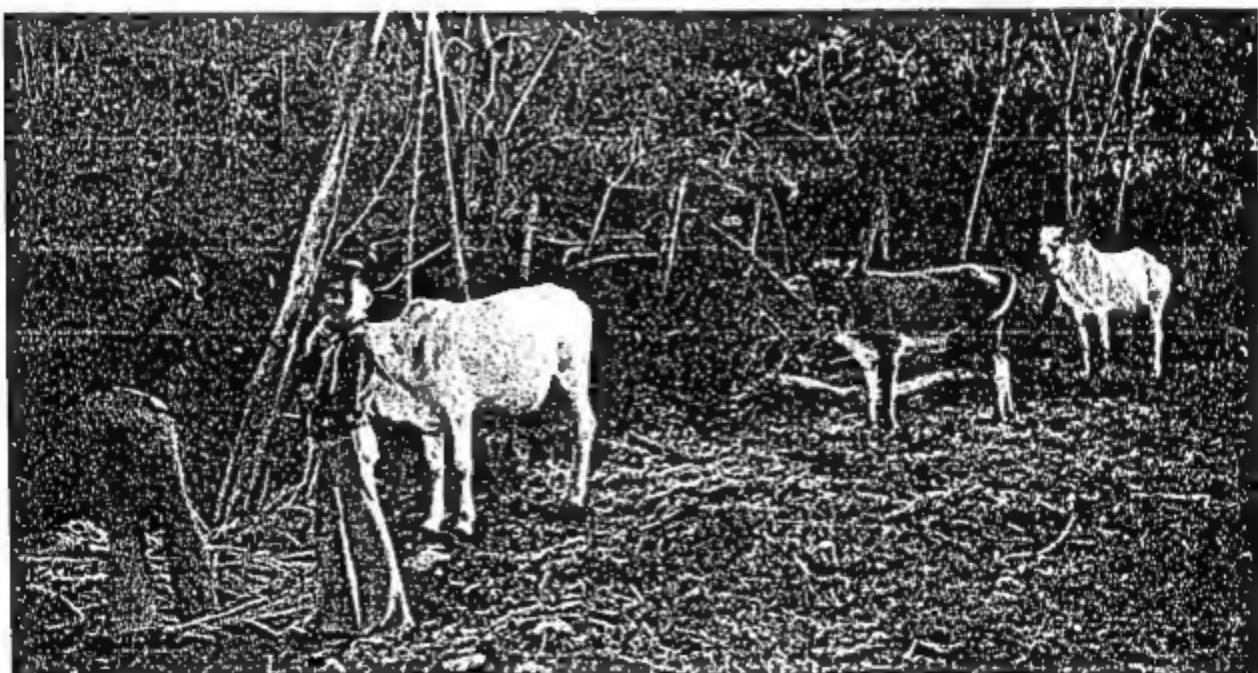
As much as 96 per cent of the country's total milk and milk products is currently being imported, which causes a heavy drain on our precious dollar reserves. Thus, our government was prompted to introduce a dairy bill in 1978 to accelerate the development of the dairy industry. This bill was

signed into law by President Marcos on March 28, 1979. The new Dairy Industry Law initiates the development of the milk industry in the Philippines through an integrated approach, taking into consideration the production, processing and marketing aspects, existing and additional resources, and the many disciplines necessary for the growth of the industry. The law also places milk production in the hands of the smallholder backyard dairy farmers.

Since the passage of the New Dairy Law, two significant moves have been taken to implement it.

1. *Launching of Smallholder Dairy Development Projects.* The first of two phases of the Smallholder Dairy Development Projects was launched by the Ministry of Agriculture in September, 1979. Jointly financed by the Asian Development Bank (ADB) and the International Fund for Agricultural Development (IFAD), this first phase seeks to arrive at an overall program for developing dairy sector and identifying potential projects and areas for development, primarily the smallholder backyard producers.

2. *P2.3 million loan from the Government of Finland for smallholder-based dairy development.* The Minister of Agriculture signed an agreement with the Finnish Government for the financing of P2.3 million smallholder-based dairy project in a selected priority area. The project utilizes an integrated approach to dairy development which includes the provision of facilities and services for milk production, collection, transport, processing, storage and marketing of milk and milk products.



The project aims to boost the farmers' incomes and at the same time promote milk consumption for proper nutrition.

An important adjunct to the dairy industry is the full support extended by the Bureau of Animal Industry through breeding of dairy cows, purchase of dairy animals and tapping the goat industry as potential source of meat and milk. With 14 dairy farms throughout the country, the 1979 milk production from these dairy farms accounted for 163,808 liters as against last year's output of 134,919 liters.

Feasibility tests are also being conducted at the Coconut Food Pilot Plant at San Carlos University in Cebu on the commercial production of skimmed milk from coconuts. Cocomilk is a high-protein by-product of the aqueous coconut oil process developed by Texas A & M University. The commercial production of cocomilk will further reduce the country's milk import bill.

FOOD AND NUTRITION PROGRAM

With the country's apparent stability in grains and rice problem no longer a threat, the year 1979 saw the Ministry of Agriculture turn its attention to the problem of producing cheap, easy-to-grow, Indigenous calorie and protein-rich foods to improve nutrition and reduce food costs. A comprehensive food plan for possible financing by the World Bank has been prepared to this effect. At this stage of development, the program aimed not only to identify and produce indigenous crops which are highly nutritious and at the same time have great income potential, but also to ensure that

the nutritional benefits of these crops are made available to those who need them most, specifically the 2.8 million malnourished pre-school children and lactating mothers, and other target groups.

Considerable attention is now being given by the Ministry in the development of edible root crops — white potato, sweet potato and cassava — to provide cheap calorie source to supplement the country's rice and corn diet; and the development of protein sources. While the country is self-sufficient in poultry and swine, it still falls short in protein foods like beef, dairy, fish (in the hinterlands), and legumes like mungbean, soybean, winged bean (*sigadilles*), cowpea and peanuts.

AGRI-BUSINESS DEVELOPMENT PROGRAM

The agri-business development program under P.D. 1159, otherwise known as Agricultural Investment Priorities Plan (AIPP), was drawn up in 1977 to provide incentives specifically designed for agricultural projects which include the production of cattle and carabao, dairy and dairy products, hog and hog by-products, processing of feed and feed ingredients, cotton, cassava, tobacco, and coffee, among others. In the second AIPP, an annual listing of preferred areas eligible for incentives was finalized and approved by the NEDA in May 1979. As in the first AIPP, inclusion of priorities in the plan was determined on the basis of projected supply-demand gaps, potential for creating new markets, and economic benefits, such as productive employment, import substitution effects and foreign exchange earnings. Commodities in the second AIPP are essentially the same as those found in the



first listing, except for some new areas which had been added, like pineapple for exports, citrus, palm oil, and rubber.

With efforts directed towards the promotion of agri-business investments specifically among small and medium-scale entrepreneurs, the Ministry of Agriculture held a series of conferences from December, 1978 to September 1979, in strategic regions of the country namely:

- 1) Davao City (Region XII) — attended by a large number of banana growers. Although rice, corn and sorghum are considered the regional agricultural thrusts, some participants expressed immediate interest in tree-farming, cassava, and rubber production;
- 2) San Fernando, La Union (Region I) — where many small farmers met to learn more about the AIPP. The main agricultural thrusts of the region are rice and feedgrains, but the Ministry dwelt on goat-raising and ipil-ipil production for charcoal and animal feed.
- 3) Cebu City (Region VII) — attended by a cross-section of entrepreneurs with great interest in various agri-business priorities available through the AIPP.
- 4) Iloilo City (Region VI) — attended by small farmers and medium-scale entrepreneurs who were mostly fertilizer dealers and seed growers.
- 5) CLSU Agri-business seminar — to orient the University with agri-business principles and the MA's agri-business program

which are relevant to CLSU's current activities, such as the Techpack Program for small farmers.

Between the period of November 1978 to December 1979, the MA received 34 applications for registration under P.D. 1159, to wit:

1. Poultry, hog and cattle production — 6 applications each — (18)
2. Integrated cassava starch processing — 5 applications — (5)
3. Cacao production and processing — 3 applications — (3)
4. Production of F₁ sorghum seeds, F corn seeds, coffee, black beans and sorghum, goat raising, a grain silo project and feeds processing — 1 application each — (8)

It is also currently drawing up profiles of commodities in the AIPP, which are still unapplied for. Some of these are on feedgrains production, cotton growing, ginning, and farm services. Upon completion, these profiles will be presented to private entrepreneurs to encourage investments in these areas.

SPECIAL PROGRAMS

a. *Fertilizer and Pesticide Program*

This program under the umbrella of the Fertilizer and Pesticide Authority came into existence as a result of the great floods in 1972 and the oil crises in 1973 when the country experienced the tight fertilizer squeeze as fertilizer imports and local production costs skyrocketed. In the first two



critical years of its operation coincident with all sorts of crises, man-made and natural, the FPA institutionalized networks for effective monitoring of fertilizer distribution in the country and measures taken to develop the local fertilizer production proved workable.

Since then, the program has been able to reduce the fertilizer subsidy from P400M in 1975 to P55M in 1977 and, consequently, for the first time in five years, the government paid no subsidy to the fertilizer industry for the year 1979. Accordingly, the no-subsidy situation in 1979 was attributed to price increase of fertilizer effected by the FPA in April, 1979; 16.4% for imported grades and 26.7% for locally produced grades. During this period, the country's farmers used a total of 832,964 metric tons of fertilizer as compared to 791,500 metric tons in 1978, or an increase of 5.4 per cent. This is held significant because despite price increase of fertilizer with no corresponding increase in M-99 loans given to farmers, a moderate increase in fertilizer consumption was registered.

The year 1979 (April 13, to be exact) was written in fertilizer history as the year when the country agreed jointly by way of a Memorandum of Agreement with ASEAN-member countries to establish the first Asean ammonia-urea project in Dacrah, Aceh Fertilizer Corporation. This project, with a designed capacity of 330,000 metric tons of ammonia and 670,000 metric tons of urea annually, is now off the ground. It is expected that the country would begin to feel the concrete effects as trial and commercial production targets are slated by the early part of 1982.

In the field of pesticides, the FPA had also covered considerable mileage in terms of developmental projects undertaken, notable among them were: 1) the formulation of 48 dealers' associations throughout the country which would serve as direct linkages to the farmers; 2) the putting into operation of the agro-medical training of some 4,000 rural health doctors to educate and protect the public from the inherent risks of fertilizer pesticide use; 3) the certification of the country's pest control operators in an effort to professionalize the pest control industry; 4) the registration of fifty-eight 1581 pesticide commodity products, a process involving the evaluation of the toxicological, biological efficacy, residue and fate in the environment of pesticidal products to ensure and guarantee the safeness and effectiveness of all locally-made chemicals; and 5) the transfer of the administrative and regulatory jurisdiction of household pesticides from the Food and Drug Administration to the Fertilizer and Pesticide Authority.

b. Multicropping Production Program

Multiple cropping system was launched in 1975 as a means of maximizing land use for a growing population having constant land area for food production to meet the food and other major requirements of the people. Since then research activities on various cropping systems suitable to the different regions of the country had been conducted, which resulted in and enabled the farmers to have a larger volume of produce from a given area in a given period as compared to those practicing monoculture. Other national programs such as Masagana 99, Maisan 77 and Guleyan Sa Kalusugan had been integrated so as to assist farmers in technology and credit thru single crop loaning or thru the Integrated Agricultural Financing (IAF) scheme.

The Multicropping Production Program had been expanded and developed into coordinated multiple cropping programs in three pilot areas in Iloilo, Davao and Pampanga and 31 pilot municipalities in La Union, Pangasinan, Nueva Ecija, Bulacan, Batangas, Camarines Sur, Misamis Oriental and South Cotabato.

As of December, 1979, a total of 211,147.2 hectares had already been planted out of the 246,711 hectares targeted for Phases III & IV, covering January-April 1979 and May-December 1979, respectively. Total production from these areas was reported at 569,567.8 metric tons or an average of 2.7 metric tons per hectare, excluding that of Iloilo's whose reports were not received at year's end.

c. Guleyan sa Kalusugan

The "Guleyan sa Kalusugan" Program has entered into a fifth phase (crop year 1979) in its development with the major elements of providing farmers with additional sources of income and insuring continuous supply of vegetables in the market. This program covers eleven priority crops, some of which are beans, cabbage, garlic, onion, tomatoes, and peanuts.

Phase V of the GSK was implemented in twenty provinces all over the country. As of December 1979, a total of 51,880 hectares were planted to assorted vegetables by 34,311 self-financed farmers. This hectarage has surpassed the 42,035.71 hectares planted in 1978. Vegetable farmers who took advantage of the supervised credit scheme produced a total of 7,432.3 metric tons as of November 1979; while self-financed farmers had an output of 154,279.92 metric tons. Total supply of vegetables produced under the GSK amounted to 161,730 metric tons as of November 1979.

Compared to the prices of vegetables last year, the 1979 prices were generally much lower, considering that the retail and wholesale prices of ampalaya, cabbage and sitao, for instance, had gone down by 16 per cent, 0.3 per cent and 4.6 per cent, respectively, notwithstanding the fact that there was the general uptrend in prices caused by the OPEC price increase. This decrease in vegetables prices over the previous year's was attributed by traders to the abundant supply of vegetables, mostly from non-programmed plantings brought about by favorable weather. Likewise, vegetable farmers were encouraged by the attractive prices commanded by vegetables in 1978 to produce more in 1979.

In terms of financial assistance, a total amount of P1.04 million was loaned out to farmers under GSK-Phase V supervised credit scheme. However, only P492,278 was repaid in 1979, representing a decrease in repayment rate from 63 per cent in 1978 to 47 per cent in 1979. (In 1978 a total of P4,207,508.8 was released of which P2,647,358 was repaid.) This rate, however, is expected to improve with the December collections.

d. Cassava Production

In support of the national alco-gas program, the Ministry of Agriculture began a cassava program in 1979 to supply the minimum requirements of the anhydrous alcohol plants that will soon rise all over the country. Cassava, therefore, will find its most dramatic use to date when it is applied as an input in the production of ethyl alcohol for motor fuel and, as such, it is an alternative renew-

able energy source. Projected alcohol production for motor fuel is 48 million liters by 1982, up to 336 million liters by 1988, thereby effecting annual import savings of \$8.1 (in 1982) to \$111.4 million (by 1988).

The cassava program also intends to produce enough raw materials for the existing but under-utilized starch processing plants in Lanao del Sur, Negros Occidental and Pangasinan, as well as augment the country's animal feed requirements in the form of cassava chips and pellets.

e. Rice-Fish Culture Program

Considered as one of the latest technological developments under the food production program, the Ministry of Agriculture this year introduces the rice-fish culture technology (the simultaneous production of rice and fish in the same paddy) in irrigated rice lands in landlocked or inland areas where the supply of protein-rich fresh fish is insufficient to meet the nutritional demands of the population. Growing rice and fish together is a big step towards bridging the country's protein gap, which is most pronounced in the rural areas. Moreover, the simultaneous growing and harvesting of two crops by the rice farmer will mean increased income at relatively small investment in terms of inputs and labor. Although similar practices had been done before, the Freshwater Aquaculture Center in Central Luzon State University developed a complete package of technology using high-yielding varieties (IR-32 and 42) and a selective application of pesticides. Field trials on rice-fish culture yielded as much as 200 kg. of fish per hectare without any reduction in rice yields. These encouraging



results, therefore, prompted the Ministry of Agriculture to pursue a 5-year program of rice-fish complementation starting next year.

f. Cotton Program

Charged to undertake, implement and supervise cotton production in the Philippines on a commercial scale is the Philippine Cotton Corporation (PHILCOTTON), a quasi-government institution created under P.D. 350 in 1973 (amended by P.D. 1063 in 1976). Its purpose is for the country to attain self-sufficiency in cotton thru expansion of cotton hectarage and credit availability and eventually cut off heavy cotton importations which drain the country worth \$50 M annually. It marks a turning point in local cotton production by proving that cotton could truly be a profitable crop for Filipino farmers with the application of proper inputs and technology.

A case in point is farmer Virgilio Echevarre of Binalonan, Pangasinan, whose one hectare planted to cotton (Calendar Year 1978-1979) yielded 5,900 kgs. earned him a net profit of P21,680. Although the average yield was 700 kgs. per hectare, many farmers realized yields even as high as 2,000 kgs. per hectare.

Calendar Year 1979 saw the PhilCotton undergo two distinct crop years: the harvesting phase of Crop Year 1978-79 and the planting phase of Crop Year 1979-80, which were done from January to April and from September to November, respectively.

For Crop Year 1978-79, the total area planted to cotton was 3,072 hectares distributed over the eight (8) provinces: Ilocos Norte, Ilocos Sur,

Abra, Pangasinan, La Union, Tarlac, Nueva Ecija, and Pampanga, where approximately 6,000 farmers-cooperators participated. From this hectarage, total seedcotton production reached 2,085 tons — a 23 per cent higher than last year's output. And for crop year 1979-80, a total of 7,078 hectares were planted to cotton, which more than doubled last crop year's hectarage. Approximately 13,000 farmers participated in the program in 12 provinces, namely, Ilocos Sur, Ilocos Norte, Abra, Pangasinan, La Union, Tarlac, Nueva Ecija, Cagayan, Iloilo, Negros and Cavite.

Processing of seedcotton is being done at the Philcotton's ginnery in San Fabian, Pangasinan. A second gin located in San Juan, Ilocos Sur, will be operational by the early part of 1980 in time for the processing of Crop Year 1979-80 harvest. Approximately 7,100 tons of seedcotton will be harvested at a projected yield of one ton per hectare.

g. Smallholder Tree Farming

The Ministry of Agriculture's participation in this project is carried thru the Bureau of Plant Industry. Financed by both the Philippine Government and the IBRD, the project is geared towards strengthening reforestation efforts of smallholders and government agencies involved in the national program for Forest Ecosystem Management (PRO-FEM). MA's activities during the year in review were directed essentially in intensified giant ipil-ipil seedlings production pursued thru the existing BPI five nurseries in Ilocos region with an aggregate production of 105,745 seedlings and a distribution of only 23,627 seedlings.

The low distribution figure was brought



about by the proliferation of other nurseries in the region by the Philippine Virgin Tobacco Administration and the Bureau of Forest Development, which gave seedlings to farmers-cooperators free of charge. The project, however, has enrolled and assisted 25 farmers by providing giant ipil-ipil seedlings and technical guidance covering a total of 289 hectares. Information dissemination on the loaning process of the DBP relative to the program is presently being undertaken.

h. Paoay Lake Development Project

This integrated project was launched in 1976 in Batac, Ilocos Norte, involving all government agencies concerned to increase food production, generate more income and provide a healthy ecosystem for the people in the area.

In the last few years, there have been moves by the MA thru the BPI, to bring agricultural development more comprehensive to towns bordering the lake by assisting farmers improve their methods of farming to obtain production. This year has also seen the beginning of significant changes as it supported and undertook multifarious activities in developing the area such as:

- 1) Proper care and maintenance of assorted fruit trees, shade trees and ornamental plants. This also includes watering, weeding, fertilization, spraying, cultivation and replanting.
- 2) Cleanliness and beautification of the five integrated nurseries to insure the beauty and luxuriant growth of plants. Landscaping was also properly maintained.
- 3) Regular collection of seeds and planting materials to replenish fruit tree seedlings and ornamentals.
- 4) Planting of camote and peanuts in the Suba nursery, as well as seedlings of different varieties of vegetables in Green Revolution area.
- 5) Harvesting and threshing of mongo and tomatoes for seed production.
- 6) Fencing with ipil-ipil seed in Green Revolution area.
- 7) Continuous repair of tree guards along the highway.
- 8) Propagating and replanting of assorted fruit trees and ornamental plants; potting of seedlings and resoilng of grasses.
- 9) Rotovating the whole Green Revolution area with Kobota rotovator machine.
- 10) Construction of Nagbacalan field Office.





INTEGRATED AREA DEVELOPMENT

Under the chairmanship of the President of the Philippines with Minister Tanco as Vice-Chairman, the National Council on Integrated Area Development (NACIAD) maintains under its umbrella six on-going rural development projects and five pipeline projects. The status of these projects as of the end of 1979 are, as follows:

1. *Mindoro Integrated Rural Development Project (MIRDPI)* — This P380.7 M World Bank-assisted project is currently on its fourth year of implementation. As of September, 1979, the whole project was reported to be 57.65% complete. The status of accomplishments in terms of percentage completion are: roads- 61.23%; irrigation- 59.93%; ports- 84.19%; forestry- 47.81%; Mangyan assistance- 43.6%; agricultural support services 24.86%; and schistosomiasis control- 25.91%. The project has been extended to December 31, 1981.

Pre-investment studies are also underway for projects that will compose Phase II of the MIRDPI. Identified so far are irrigation, roads, fishery, cooperative system study, agro-forestry, ports, agro-industrial projects, barangay livelihood generation projects and electrification, all of which are estimated to cost at least P1 B. Financing from the International Bank for Rural Development (IBRD) for roads and irrigation is already assured.

2. *Bicol River Basin Development Program (BRBDP)* — Financed mainly by the United States Agency for International Development, this program has been under implementation since 1975. To date, there are four capital projects consisting of roads, irrigation, flood control and other infrastructures, and six impact projects, three of which are geared towards improving the health of the population through a deworming campaign, the provision of safe water supply and a nutrition and population program.

In September 1979, two loan agreements with the USAID were concluded for the program's Rinconada Integrated Development Area and Integrated Health, Nutrition and Population projects. Total loan from USAID is now P167.6 M (\$22.5 M). An Asian Development Bank loan of \$41 M was likewise approved in October for the development of irrigable

land in Camarines Sur and Albay. Likewise, the BRBDP is currently developing new projects particularly for Sorsogon, the latest addition to the area covered by the program.

3. *Cagayan Integrated Agricultural Development Project (CIADP)* — The CIADP is currently implementing four major program components: agricultural development, electrification, irrigation and barangay roads construction/improvement. In February 1979, the CIADP Agricultural Pilot Center, which serves as a center for research and technology dissemination was inaugurated and is now fully operational. The electrification project which covers five municipalities has already provided power to 18 barangays. The total accomplishment of this component is placed at 22%. Overall accomplishment for irrigation is around 10% while construction activities in the pilot demonstration farm are 24.30% completed. Five of eleven road projects are under implementation.

The five-year P343.6 M project is being implemented with a P148.3 M loan from the Overseas Economic Cooperation Fund (OECF) and a grant from Japan International Cooperation Agency (JICA).

4. *Samar Integrated Rural Development Project (SIRDPI)* — Most of the activities of the SIRDPI, which was created in November 1976, have centered on the preparatory work prior to project implementation. The roads, port and irrigation components are at the detailed engineering stage while work on the rehabilitation of the Catarman airport, health infrastructure, village water supply and schistosomiasis control have been started. Target completion year for the project is 1984.

In January 1979, a Memorandum of Understanding was signed between the Philippine government and the Australian Development Assistance Bureau (ADABI) for a P208.28M (\$27M) grant for SIRDPI. In November, a World Bank loan of P199.8 M (\$25 M) was approved. The whole Samar project is now estimated to cost P1.02 B.

5. *Agusan, Bukidnon, Capiz Land Settlement Projects (ABC LSP)* — The ABC-

LSP was formally created through LOI 547 in June, 1977, to provide infrastructural, agricultural and institutional programs in the three settlement areas. To date, all of its components — roads, irrigation, village water supply, forestry, agricultural development and institutional development — are under implementation. Completed as of September 1979 were 139.04 kms. of roads, 8 health centers and two plant nurseries. All other projects are on-going. The total cost of the ABC-LSP project is P278 M of which P105 M is financed by the World Bank. Expected year of completion is 1982.

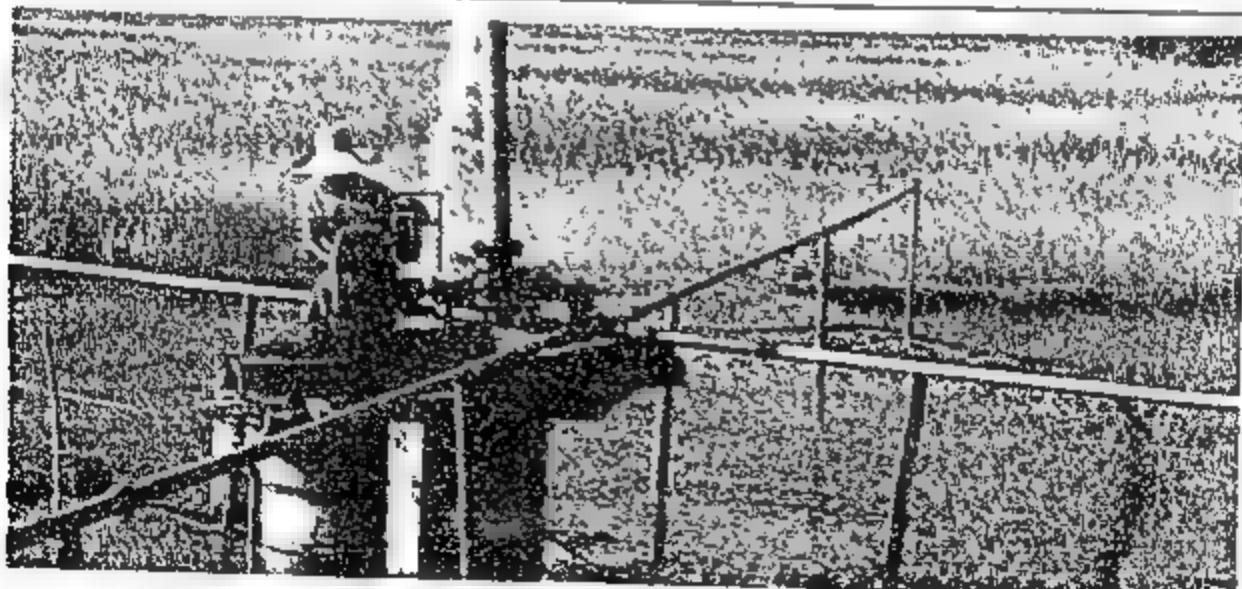
6. *Philippine Rural Infrastructure Project (PRIP)* — On February 2, 1978, Presidential Decree No. 1298 directed the implementation of the PRIP in the six provinces of Abra, Aklan, Antique, Bohol, Capiz, Kalinga-Apayao. The project consists of the construction and rehabilitation of barangay roads, the provision of irrigation and the construction of ports, barangay health stations and wells. As of the third quarter of 1979, most of the projects, particularly roads and ports were at the economic evaluation and detailed engineering stage. About 50% of the total wells for drilling, however, have been completed. Of the 65 units of barangay health stations proposed, seven units have already been completed with 14 others on-going. Eighteen of the 37 irrigation projects have likewise been started.

The project is being undertaken with a P192 M (\$28 M) assistance loan from the IBRD. Total project cost is P436 M.

Pipeline Projects

1. *Palawan Integrated Area Development Project* — The Palawan Integrated Area Development Project (PIADP) covering twelve (12) project components will include construction of 200 kilometers of barangay and farm-to-market roads, rehabilitation of twelve communal irrigation systems over an area of 1,537 hectares and the construction of 30 communal irrigation projects encompassing 8,000 hectares. Other project components involve the implementation of an agricultural diversification system, reforestation and intensification of small-to-medium-scale island and coastal fishing projects, ports development, village water supply, health and nutrition, co-operative development, rural industries, cultural minorities assistance, and support services.

A skeleton staff was organized out of the NACIAD technical staff while the Asian Development Bank agreed to provide technical assistance in the preparation of a comprehensive development plan for Palawan. Of the total cost of \$650,000, the ADB will finance \$350,000 while the UNDP will assume \$300,000. The technical assistance, which was granted in December, will be in the form of a study of Palawan to be conducted within a period of six



months. As of May 1978, a UNDP/FAO-financed Land Appraisal Project was carried out by the Bureau of Soils; after which it collaborated with NACIAD in conducting a consultative-workshop on Soil and Land Resources Evaluation for PIADP in Puerto Princesa.

2. *Bohol Integrated Area Development* – Based on the scope of work agreed upon by the Japan International Cooperation Agency (JICA) and NACIAD on August 16, 1978, the Japanese government sent a JICA Study Mission Team which stayed in Bohol from July 10 to September 17, 1979.

NACIAD's technical comments and amendments were incorporated in the final draft of the Master Plan which was completed in December 1979. A JICA Mission Team recently submitted the final draft report.

The final draft centers on 28 high-impact projects of which 11 are economic sector projects, 14 infrastructure projects and 3 social services sector projects. The report places the highest priority on agriculture and fisheries. The total cost estimates for a five-year period of the Bohol Integrated Area Development Plan is P543.3 million.

Recently, the NACIAD finished consolidating the various comments from specific sectors on the JICA discussion with the JICA team. The final report of the Master Plan Study is expected to be completed by March, 1980.

3. *Cavite Integrated Area Development Project* – Following the commitment of French Secretary of Agriculture Jacques Foucher, a six-man French mission of experts in agriculture, fishery, infrastructure and tourism visited the country in December 1979 to provide insights on the development of the Cavite Integrated Area Development Project. The project is divided into four phases: 1) the preparation of an integrated area development plan for Cavite leading to identification of priority projects; 2) feasibility studies of selected projects; 3) turn key implementation and 4) technical assistance after implementation.

Initially, the Mission identified project components covering agriculture, fishery and infrastructure. Infrastructure

shall cover irrigation development, farm-to-market roads, and development of tourist zones.

4. *Pangasinan Integrated Rural Development Project* – The project document for technical assistance for the feasibility studies of the Pangasinan IRD project has been submitted to the Netherlands Government for funding under its overall assistance programme to ESCAP (Economic and Social Commission for Asia and the Pacific) for 1979.

The ESCAP-assisted project aims to assist the Government in packaging an integrated development program which gives emphasis on strengthening the institutional base for development. At this stage, therefore, a major component would include the training of personnel capable of handling the planning, implementing, and monitoring development projects at the local level.

5. *Marinduque Integrated Area Development Project* – An updated socio-economic profile for the entire island-province of Marinduque and a plan for this project had been designed. The project seeks to improve the level of essential development services and facilities as well as to effect a well-balanced provincial growth and increased production by utilizing resource potentials thru the implementation of an integrated and mutually reinforcing package technology of agriculture, fishery, and infrastructure over an initial period of three years. Agriculture will include rice production, yellow corn production, multiple cropping, livestock development and vegetable production. A fishery development program will be accelerated to meet the expanding local fish requirements since fishing is the dominant source of livelihood in Marinduque. To enhance the movement of agricultural products and services between the growth centers and interior barangays, a "cross-country" road (Boao-Interior-Torrijos road) will be constructed as a major component of the Transport System Development Program (TSDP). Other projects, like feeds, farm-to-market roads, development and improvement of an irrigation system, construction of water impounding structures and communal irrigation projects are envisioned for construction for 1984.

EXPORT CROP DEVELOPMENT

In the light of continuously rising oil prices, the Ministry of Agriculture intensified its drive to increase agricultural export savings in order to help pay for the country's rapidly rising oil import bill. The MA's export program covers both the expansion of traditional exports such as sugar, coconut, pineapple, banana, and the development of new exports like mango, papaya, and coffee.

1. *Coconut* — As in previous years, exports of this commodity during the first half of 1979 were largely in the form of copra, coconut oil (crude and refined oil), desiccated coconut, copra meal, activated carbon and coco shell charcoal valued at \$472 million. This amount is 17.3 per cent higher than exports in the same period in 1978. Volume, however, was only 710.3 thousand metric tons, or 29.7 per cent less than the volume exported in the same period last year. The Philippines enjoys a diverse market for coconut products, but the United States still remains the major importer of crude oil and desiccated coconut; while the Netherlands is the largest market for copra.

Despite production yields which remain at a low 1.4 tons of nuts per hectare, coconut production in the Philippines has been boosted by large increases in world prices since 1977. However, the government's optimism in its future production outlook has

already been induced and set up by undertaking extensive information campaigns to teach coconut growers new techniques of improving yields and utilizing coconut by-products. The Philippine Coconut Authority is also building up massive seed stocks of improved high-yielding varieties obtained from the Ivory Coast for a nationwide replanting campaign, which will start early next year.

2. *Banana* — Giant Cavendish bananas are grown in the Davao-Cotabato area in Mindanao. Considered as one of the country's top ten export items and dollar earners, Philippines exports of this commodity for year 1978 reached 772,639 metric tons valued at FOB \$95,053,000, which was 31 per cent above the 1977 value of \$72,461,000. Japan remains the major importer, absorbing a hefty 88 per cent of the total Philippine banana exports. Export figures for 1979 are still unavailable up to this writing.

Philippine banana trade performance for year 1979 is short of being sluggish on account of the country's loss of the Iranian market and exports to Japan decreased due to high tariff rates, not to mention the costs of fertilizer, irrigation, and labor having gone up considerably resulting in smaller profits. The industry, however, has to hit on all cylinders to



stimulate greater demand for this commodity; the adoption of more efficient production techniques which include post-harvest handling, packaging, and transport, and the search for new foreign markets.

3. *Pineapple* — The Philippines' pineapple exports, both fresh and canned, are chiefly accounted for by two American multinational corporations — the Philippine Packaging Corporation and Dole Philippines, Inc. Yield per hectare of these two firms is high at 42 metric tons, compared to the national average of 13 metric tons per hectare. All regions in the Philippines produce pineapple with the bulk of production coming from northern and eastern Mindanao.

The country's fresh pineapple exports have been prosperous in recent years. From 75,832 metric tons valued at more than \$6 million in 1977, fresh pineapple exports grew to 100,844 metric tons valued at \$7.4 M in 1978, or

an increase in value of 48 per cent. Figures for 1979 are still unavailable up to this writing.

On the other hand, 1978 sales of canned pineapple which include pineapple juice, concentrate and syrup, export sales accounted for 185,270 metric tons valued at \$85.5 million. An appreciable performance for the first half of 1979 was also registered as canned pineapple export accounted for 99,014 metric tons worth \$38.9 million.

With the growing worldwide demand for coffee, cacao, palm oil and rubber, the MA is now intensifying efforts to put these commodities into local production on a commercial scale. Other potential exports currently being developed are cashew and macadamia nuts, spices like pepper, ginger and garlic; castor oil for the production of brake fluid, medicinal plants, essences for perfumes, ornamental plants, arrow-root and rattan.



MA Accomplishments

CY 1979

BUREAU OF PLANT INDUSTRY

As the major implementing arm of the government's agriculture program, the Ministry of Agriculture, thru the Bureau of Plant Industry, links the mainstream of the country's agricultural development by providing support services in producing the basic foods for the burgeoning population and the sources of raw materials for agro-based industries and dollar earnings from agricultural export crops, through the development and improvement of the plant industries of the country. Appreciable accomplishments for CY 1979 were achieved through the bureau's expanded functions, namely, production and distribution of improved seed and plant materials; agricultural research on crop improvement and utilization; protection of crops from pests and diseases; development and improvement of farm equipment, implements and structures; and the development of packages of technology and the effective technology transfer from experiment stations to farmer's sphere of activity.

For the period covered by this report (CY-1979) under crop production, around 675 hectares were planted to rice, corn, legumes, feed-grains, cotton, Irish potato, and assorted vegetables for seed production in all experiment stations and farms strategically located in all parts of the country. This represents 77 per cent accomplishment based on a target of 874 hectares. A total of 432,058 kilograms of different classes of seeds of various crops were harvested from 320 hectares; while reported seeds distributed amounted to 789,742 kilograms, which is 76 per cent of the total stock of 1,035,332. There was a remaining stock balance of 245,589 kilos of assorted seeds as of December 31, 1979.

On the matter of plant material propagation conducted in the stations and seed farms, a total of

1,709,526 pieces of sexually and asexually propagated plant materials were produced, and an aggregate of 1,060,780 pieces (valued at P758,453) were either sold, given free or sent to other stations. Total distribution was about 62 per cent of the total production.

The seed testing laboratories, which cover the twelve regions of the country, also produced encouraging results by certifying an aggregate of 45,005 samples and conducting 43,340 tests on assorted seeds.

As of the end of the calendar year, BPI's agricultural research, thru its 33 experiment stations and seed farms, had conducted a total of 380 on-going research studies representing 567 research units on different crops specifically on rice, corn, vegetables and legumes, fruit trees, and other food crops in the field of varietal improvement, culture and management. Of the 380 research studies, 298 were funded by the BPI; whereas, the remaining 82 were special projects under the bi-lateral programs funded by the PCARR and other government and private agencies. The distribution of the on-going research studies and study units by commodity group is presented below:

Commodity	No. of Studies	No. of Study Units
1. Cereals	80	102
2. Vegetables & Legumes	106	131
3. Fruits and Nuts	54	68
4. Rootcrops	11	30
5. Ornamental & Medicinal Plants	25	38
6. Beverages, Spices & other crops	11	15
7. Tobacco	31	26
Sub-Total	298	508

Special Projects	No. of Studies	No. of Study Units
a. White Potato	11	17
b. AVRDC	22	38
c. Wheat and Triticale	11	39
d. Others		
1) Cereals	32	59
2) Vegetables & Legumes	6	6
Sub-Total	82	150
TOTAL	380	567

Made operational only in 1977, the field trials service of the SPI involves the continuous activities of providing direct linkage between research and extension which would narrow down the gap obtaining in experimental farms and in farmer's field through effective mechanism of technology transfer. During the period under review, 192 field trials were undertaken in strategic regions throughout the country. Out of these trials, 84 trials or 44 per cent were trials made on rice; while the remaining 56 per cent were trials on corn, sorghum, soybean, rootcrops, wheat, legumes fruits, tobacco and fibers (cotton and abaca). Trials kits for different crops were also prepared and distributed for countryside testing in farmers' field of operations.

Along crop protection, an assessment was made to determine the effectiveness of the National Rat Control Program in terms of damage loss to crops caused by rat infestations compared to last year's crop damage loss which was 745,000 sacks of paddy rice valued at P37 million or 0.71 per cent, the 1979 loss amounted to around 420,000 sacks of paddy rice valued at P21 million or 0.3982 per cent.

In the control of various pest infestations from 1978 to 1979, a notable reduction of 90 per cent was achieved particularly on the control of stemborer, brown planthoppers, army worm and cutworm with 94, 86, 91 and 94 per cent reduction over the 1978 pest infestations, respectively. Decrease in percentage losses were attributed to the three vital steps taken: 1) effective implementation of the SEWS (Surveillance and Early Warning Systems); 2) the use of disease-resistant rice varieties, and 3) acceptance by the farmers of crop protection measures as a major input to crop production.

Likewise, general disease infestation was reduced by 28 per cent as diseases of prime national concern, such as rice blast, infectious gall, and bacterial leaf blight abated somehow by 44.3 and 19 per cent, respectively, and did not in any way cause significant reduction in productivity. However, rice tungro virus and sheath blight occur-

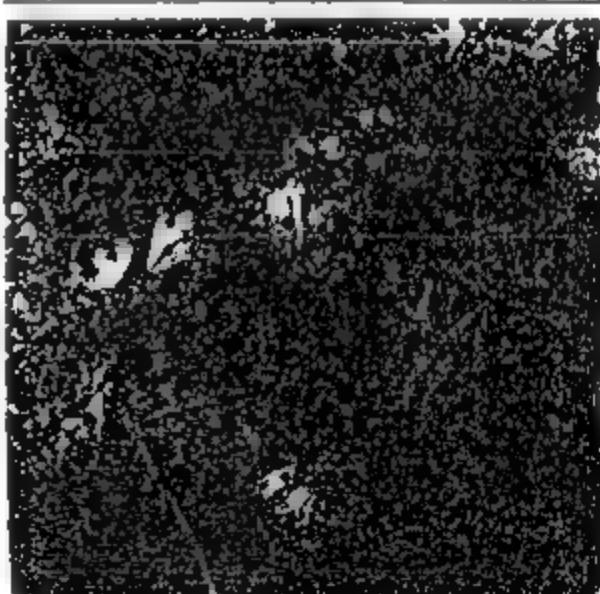
rences had both increased significantly. This may be explained by the farmer's widespread use of susceptible varieties in their paddies.

As regards plant quarantine activities, various insect pests in cereals and fruits coming from foreign countries were intercepted. Plant diseases in vegetables and fruits, as well as food provisions of crews on board ships, were also identified. Thus, rigid inspection and certification of important crop commodities were made.

Some of the agricultural products given plant quarantine certification are presented below:

Exported Commodities	Volume (Kg.)
Banana	908,988,379
Pineapple	78,264,789
Mango	7,361,497
Onion	3,974,904
Ginger	695,062
Coconut	33,050,646
Abaca	—
Tobacco	28,543,446
Coffee	18,989,353

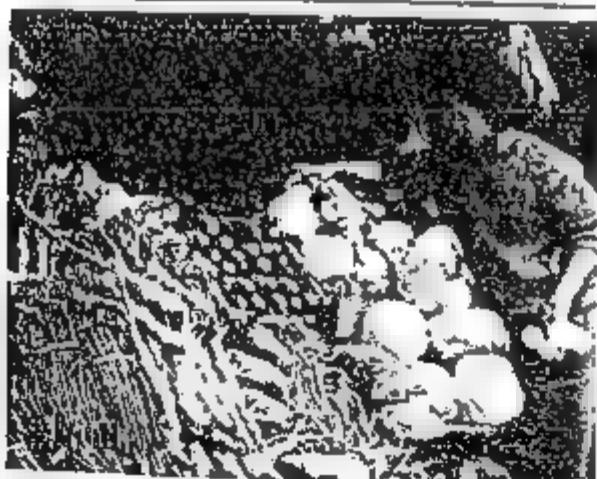
Imported Commodities	Quantity (Kgs./Parcels/Pieces)
Wheat in Bulk	280,955,828 Kgs.
Malted Barley	35,917,720 Kgs.
Soybean Meal	12,656,480 Kgs.
Rice seed (Bulk)	4,149,648 Kgs.
Indian Ground Nut (Bulk)	489,150 Kgs.
Fresh Fruits (assorted)	350,622 parcels
Vegetable seeds (assorted)	138,815 Kgs.
Cacao beans	53,459 parcels
Orchid plants	134,985 pieces



Laboratory services undertook utilization researches on various crops and conducted regulatory services such as wine processing, fruit and vegetable preservations, cannery services, and training and demonstration on crop processing. Distribution of the on-going crop utilization studies by commodity group is presented hereunder:

Commodity Group	No. of Studies
1) Cereals	7
2) Vegetables and Legumes	14
3) Fruits and Nuts	11
4) Rootcrops	5
5) Tobacco	2
6) Beverages, Spices & other crops	13
7) Ornamental & Medicinal plants	6
8) Special Project: a) white potato	2
b) wheat and triticale	1
c) Fiber project	2
TOTAL	63

With regard to agricultural engineering, the BPI pursued its regulatory activities in planning, drafting, designing and supervision of various infrastructure projects of its own and expanded its research activities from the development of simple and low-cost farm implements and crop-processing equipment to post-harvest technology research. Examples of these were the thirty (30) farm tools and labor-saving devices manufactured, like shovel diggers for tree planting, pot soil filters and double-action upland weeders. On top of this, priority I Inclusion of agricultural engineering by PCARR in Research Commodity, BPI's agricultural engineering division was singled out and chosen as the center for research on farm tools and implements.



BUREAU OF AGRICULTURAL EXTENSION

The year just passed saw the Bureau of Agricultural Extension carry out more emphatically the campaign for increased food production, better nutrition and the improvement of the quality of life in the rural areas. Agricultural extension services were accelerated and varied economic activities in the rural economy were generated, resulting in increased yields of farmers and the greater concern for their families.

A three-pronged extension program in agriculture was pursued by the BAE to strengthen its efforts to enhance and accelerate the adoption of an improved package of technology in agriculture and the continuous education of farmers on the benefits of supervised credit schemes.

As in previous years, rice production continued to receive priority attention in the total agricultural development efforts of BAE. Some 2,010,258 rice farmers were technically assisted by field technicians.

Under the Masagana 99 program, a total of 1,356,947 rice farmers in the programmed areas throughout the country, covering an area of 1,944,718 hectares, were served. A reported production of 6,379,011 metric tons was registered, or an average of 3.28 metric tons per hectares. This year's yield decreased by 3 per cent from last year's reported output of 6,577,353 metric tons (compared to last year's 7,280,886 MT) due primarily to a series of typhoons and other calamities that damaged some rice areas of the country, coupled with tight credit and high cost of farm inputs.

In the unprogrammed areas not covered by the Masagana 99 program, some 653,312 farmers, covering an area of 1,032,686 hectares, were served. An increase in the area covered from last year's 927,676 hectares to 1,032,686 hectares coupled with an increase of average yield from 2.48 to 2.67 metric tons per hectare brought about a remarkable increase in production from 2,297,196 metric tons to 2,756,845 metric tons.

Corn and feedgrains (programmed) production under "Maisan 77" program was likewise vigorously pursued. This program involves the production of white corn, yellow corn, sorghum and soybeans intended not only for human consumption, cornstarch manufacturing, providing buffer stock for food security and export, but also to satisfy the feed requirements of the growing poultry and livestock industries as well.

At year's end, the "Maisan 77" program with a total of 148,885 farmers served chalked up an overall production of 420,662 metric tons. Despite, however, the increase in hectarage, this

output was considered low. This was due largely to the high cost of agricultural inputs, unavailability of credit assistance, drought, and the occurrence of rat infestation.

However, in corn and feedgrains extension (unprogrammed), a reverse trend happened. This year's production went to as high as 550,475 metric tons, or 108 per cent over that of last year's. Region 7 (Central Visayas) led in the overall production.

In vegetable and fruit production, the program registered a total output of 1,275,834 metric tons — 959,339 metric tons coming from vegetables and 316,495 metric tons from fruits. These efforts were attained by no less than 805,540 farmers covering an area of 325,235 hectares.

The Bureau also undertook a campaign in poultry and livestock production. Extension services reached 888,203 farmers, enabling them to raise 4,537,984 heads of poultry, 934,114 heads of swine and 759,509 heads of other animals. Commercial and semi-commercial farms were also given assistance, but on a limited scale.

Major studies were also undertaken in the organization/reorganization of Farmers' Associations as effective channels for the dissemination of appropriate technology. Total farmers' association

organized reached 8,537 with a total membership of 326,752 farmers. Likewise, there was a remarkable improvement in the practical farming classes coverage this year. Support was primarily extended by encouraging continuous dialogue among the field extension workers, farmers and opinion leaders as practical farming classes were conducted either in homes or in a specially designated place in the community. A total of 45,819 sessions were held this year with 119,119 farmers in attendance.

The nutrition education and food production program is in support of the Ministry of Agriculture's nutrition thrust and is designed to produce cheap, easy-to-grow indigenous calorie and protein-rich foods.

The Bureau's emphasis was on improving the nutritional status of the rural family more specifically, the pre-school children, pregnant and lactating mothers. On this aspect the bureau assisted 674,138 families exceeding last year's accomplishment of 587,180 farmers assisted, (adjusted from last year's figures of 935,933 families or an increase of 14.8 per cent). Aside from the basic concept of nutrition, the rural women folk were also encouraged to raise vegetables, poultry and livestock in their respective backyards. Total production derived from these projects amounted to 16,239,449 kilograms.



The malnutrition prevention project sponsored jointly by the BAEx, the National Nutrition Council, and the United States Agency for International Development (USAID), has resulted in substantially preventing malnutrition among infants. A total of 89,956 infants were enrolled under this project in 3,282 barangays covering all regions of the country.

Income-generating projects were also pursued and given greater impetus by encouraging homemakers to earn additional income especially on home industries and clothing projects. This year, 142,621 homemakers were able to produce a total of 1,348,026 pieces of various home industry products and garments.

There was also a significant improvement in rural extension group coverage. Support was primarily given to the continued expansion and organization of Rural Improvement Clubs, Homemakers Classes, and RIC-children Centers to help multiply extension teachings and accelerate adoption of improved technology. Such undertakings brought about a more effective and coordinated approach in strengthening extension efforts to improve the quality of life of the families in the countryside. Rural Improvement clubs organized during the period in review registered a total of 7,100 clubs (as compared to last year's 7,000 clubs adjusted from last year's figure 6,519) with a membership of 215,302 homemakers, while homemakers classes totalled 5,293 classes organized with 118,348 women as members. The RIC-children centers reached a total of 3,887 centers in operation for the same period.

The training and development of the youth thru the Anak-Bukid Club (formerly 4-H Club) was also vigorously pursued. Members of the Anak-Bukid Clubs (AB) were taught cattle fattening and legume (mongo and peanut) production. Other major projects undertaken were cassava for biogas production and goat raising. The project accomplishments during the year in review, however, appeared unimpressive due to the transition in the program thrusts and the emphasis of membership to out-of-school youth. Nevertheless, about 3,832 AB members enrolled in the cassava project were able to produce 5,556 metric tons and about 17,063 members produced legumes amounting to 3,118 hectares. In cattle fattening, 914 metric tons were produced by 6,695 members; while in goat raising some 176 metric tons were produced by 3,266 AB members.

Other projects of AB members are duck raising, swine and rice-fish culture, as well as crop production.

BUREAU OF ANIMAL INDUSTRY

The momentum gained in the attainment of self-sufficiency in foodstuff such as rice, corn, vegetables and other crops, was also complemented by an upswing in the production of pork, eggs and meat. The year just passed saw the dispersal of superior breeds of animals for upgrading the local stock in the hands of the backyard raisers, which accounted for the 80 per cent of the livestock population.

The major accomplishments chalked up by the Bureau of Animal Industry in the attainment of its goals were, among others, in the fields of 1) research on the prevention and control of animal diseases and parasites; 2) artificial insemination service on swine, cattle and carabaos; 3) biogas production; 4) livestock marketing, 5) dairy production and development to complement the First Lady's Milk and Feeding Program; 6) livestock dispersal; 7) forage and pasture seedstock production and dispersal; and 8) animal feed control service.

The CY 1979 thrust on research, which heretofore was mainly confined to pure research, was both extensive and productive as it not only went hand-in-hand with a development service geared towards developing suitable, economical and efficient methods of producing more meat, poultry, milk and eggs, but also on pasture and forage development, which is a prerequisite in the Beef/Carabeef program of the Ministry of Agriculture. A total of 60 projects were undertaken of which 17 were completed and the rest are on-going and/or suspended/terminated.

To effectively safeguard against the spread of animal diseases, which in the past had kept many livestock and poultry investors away, the Bureau vigorously implemented its animal health program. As a result, the occurrence or outbreak of the dreaded hoof-and-mouth disease had been minimized, if not checked, in provinces where the incidence of this disease was known to be prevalent. During the year in review, HMD vaccinations totalled 2,067,783 for cattle, carabaos, swine and other animals. Vaccination figures for hemorrhagic septicemia were as follows: 599,535 cattle; 744,846 carabao; and 557,313 animals other than those specified. Other vaccinations were: 603,960 against hog cholera; 1,998,592 against swine plague; and 243,810 (on pets) against rabies. In poultry, 8,661,924 were vaccinated against fowl cholera; 62,284,446 against avian pest; 7,663,189 against roup, and 14,362,566 against pigeon and fowl pox. The number of animals diagnosed were as follows: 332,505 cattle; 608,727 carabaos; 5,086,385

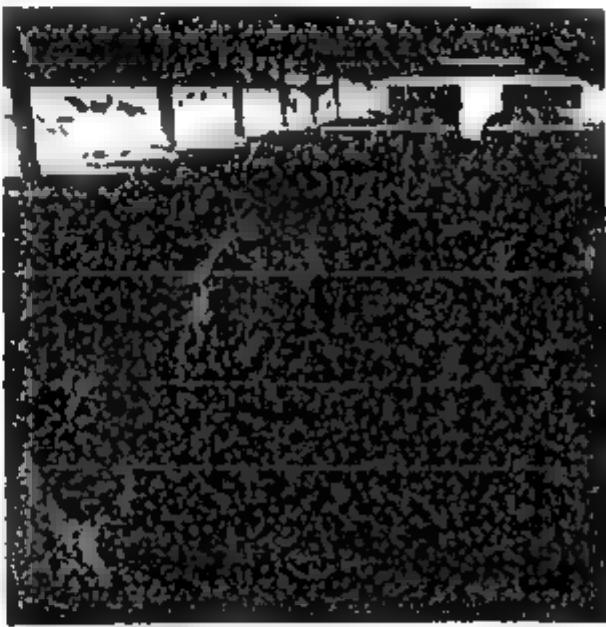
swine; and 40,111,198 for animals other than those specified. Treated were 124,271 cattle, 193,034 carabao; 1,471,277 swine; and 12,532,065 classified as "others." There were 514,338 castrations made on cattle, carabao, swine and other animals. Then, too, animals given quarantine, were the following: 165,580 heads of cattle; 249,034 heads of carabao; 1,564,005 heads of swine; 79,158,228 poultry; and 356,846 other animals.

The Bureau's artificial insemination activities were further intensified with impressive results. At year's end, a total of 102,781 animals (8,329 cattle, 1,759 carabao and 92,683 swine) were artificially inseminated. These figures are comparatively higher than last year's reported 58,231 animals artificially inseminated. The offsprings produced from these artificially inseminated animals totalled 388,904, distributed as follows: 1,684 cattle; 122 carabao and 387,098 swine.

The BAI also engaged in the development of potential sources of elemental energy, particularly in the production of methane gas or biogas for cooking, lighting and other direct heat applications. Through biogas operations, livestock urine and manure, farm residues and other farm wastes were recycled to produce methane gas, the use of which is now gaining popularity among households in the provinces. Three years after the launching of

this project, the Bureau of Animal Industry had installed and placed in operation a total of 101 biogas plants in its stock farms, breeding stations and centers. Because the response had been very encouraging, no less than 298 biogas units in private farms had been put up.

Along livestock marketing, the BAI set up livestock "OKSYON" markets that enabled the farmers to obtain fair price for their animals with the following unique features: 1) the presence of weighing scales enabled the farmers to find out the exact weight of the animals; 2) the availability of price bulletin posting the prevailing prices of animals in major market outlets; and 3) the ever presence of marketing technician to provide technical supervision while the local government provided management to the establishment. Due to strong representations made by the local governments to set up livestock markets in their respective areas, the original target of 36 livestock markets up to 1986 was overshot in less than two years with already 54 livestock markets existing as of year's end. Of these, 11 were established during the year in review. Aside from livestock markets, the Bureau, in cooperation with the Metro Manila Commission's "Alay Sa Mamamayan" program which caters to basic food needs of poor families started selling since April, this year, processed meat and canned goods like pork, beef, chicken, hotdog,



tocino, eggs, corned beef, luncheon meat, chopped ham, milk and sardines at relatively low prices. As of December, 1979, 16 rolling stores have been moving about in 50 or more points in the Metro Manila area with a fleet of 16 food vans.

To increase local dairy production and promote the development of the dairy industry, the dairy cattle breeding base was expanded by purchasing dairy animals and tapping the goat industry as a potential source of meat and milk. Currently, there are 14 BAI-operated dairy farms from which a total of 163,918 liters of milk were produced; and, the volume of milk collected from the surrounding areas amounted to 211,996 liters. To complement the First Lady's nutrition program, the Milk Feeding Program in 1979 covered 83 schools, as against last year's 35 schools, which distributed a total of 90,008.25 liters to 9,603 school children.

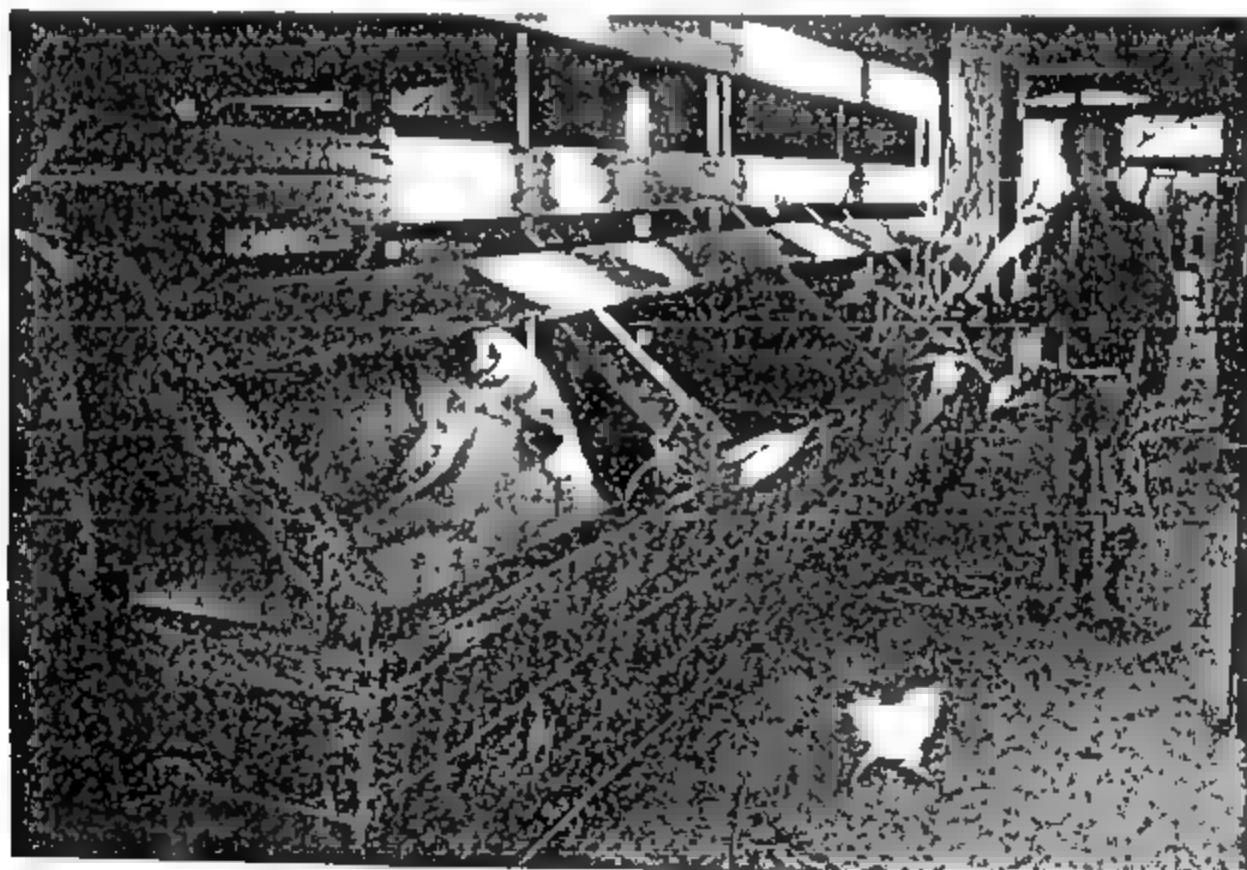
The livestock dispersal under the ANICARE program, aimed at upgrading the existing local stock (native) in the hands of backyard raisers, saw the dispersal of 22 cattle, 147 swine, 548 poultry, 80 goats, 131 rabbits, 520 quails and 47 ducks. It benefited 74 schools as against last year's 36 schools. Also dispersed thru the Livestock Loan program were 3,269 cattle, 377 carabaos, 2,258

swine; 176 ducks, 26 rabbits and 531 goats bringing the total of animals dispersed to 6,636 heads.

With the change in emphasis from grain-eating animals to grass-eating animals, more impetus was given to the development of pasture and forage. As of December, 1979, a total of 1,119 hectares at BAI farms were planted with legumes and 562 hectares with grasses. These farms produced 15,850 kilograms of pasture seeds and with the balance from last year's output added, made a total distribution of 20,417 kilograms of seeds to interested farmers and ranchers. Ipi-ipi seedlings produced totalled 1,055,185. From this, a total of 397,813 seedlings were planted.

In the field of animal feed control, the bureau collected a total of 8,241 feed samples for analysis. Some 5,682 feed analysis were monitored and 2,080 feed establishments were registered and assisted. Registration fees collected in 1979 stood at P191,775.

The BAI rigorously conducted feed sample-collection and analysis of manufactured feed products to reinforce the high-quality standards of feeds established by the government. This has resulted in the closure of 5 feed ingredient suppliers - 4 in the Metro Manila area and the other one in Region 11 for sub-standard operations.



BUREAU OF AGRICULTURAL ECONOMICS

The Bureau of Agricultural Economics, as the major data-collecting agency of the Ministry, has continued to pursue its major activities in:

1. the conduct of sample surveys on crops and livestock;
2. agricultural marketing services; and
3. socio-economic research studies in agriculture

to support the Ministry of Agriculture's program of enhancing agricultural productivity and country-side development.

Aside from its continuous collaboration with other agencies, the Bureau has kept up with its program of upgrading the skill of its personnel so as to render effective supportive services in the country's agricultural programs.

Capping BAEcon's major activities for the year in review were the five rounds statistical surveys on rice and corn conducted, as scheduled, in January, April, September and November. Results of these surveys brought forth estimates of production of palay, corn, as well as area yield and distribution of harvests of every region of the country.

To complement the major cereal surveys, monthly estimates of the nation's rice and corn stocks were provided by the Bureau through monthly surveys made on households, retailers-/wholesalers, and commercial houses, covering 72 provinces. These foregoing surveys generated data

used in the periodic assessment of the rice and corn situation of the country.

The operational capability of the Bureau has definitely been more emphatic by the continued close collaboration with NFAC, NCSO BAI, and other agencies, in a number of activities. This interaction paid off manifold dividends in the maintenance of an efficient agricultural statistics. In close collaboration with the NCSO and the BAI, the Integrated Household Survey, the Livestock and Poultry Survey, and the Survey of Animals Slaughtered in Abattoirs (SASA) were conducted with speedy dispatch. The two latter surveys now form as basis of information regarding the country's 1978 livestock population and livestock production, respectively.

Pilot studies in statistical research were also conducted this year. The Area Sampling Frame Project was initiated in Pangasinan through the financial support of the U.S. Dept. of Agriculture. This activity is intended to replace the existing list frame method which is considered more expensive because it requires heavy sampling. The area frame sampling covers specific areas of land which are stratified and subdivided into fairly homogenous groups with respect to the variability that are intended for measurement.

Brought about by the pressing demand for data on the lowest administrative levels, the Bureau launched its most ambitious undertaking, the



Regional Data and Information Systems (RDIS), through a pilot project which was initiated in Region X during the last quarter. The pilot project is aimed at determining possible problems that may be encountered. The whole project is in line with the Bureau's objective of providing data on the provincial and municipal levels. This is principally in consonance with the demand for localized information to support the planning process for development in the rural areas.

Crop-cutting surveys for rice were conducted in 12 major rice-producing provinces in the country. This project was started in 1978, and was planned to be expanded in 1979 to 5 more provinces. Due to budgetary limitations, however, this activity was reverted back to the original 12 provinces. This survey is intended to provide a more objective system of determining yields in rice and corn in order to improve the precision of data obtained under the present system utilizing the interview method which is somewhat bias.

Prices of more than 110 items were collected and disseminated in the Metro Manila areas everyday through radio, newspapers, and leaflets, which were also given to end-users at the BAEcon Central Office. This activity was undertaken by the BAEcon's Agricultural Marketing News Services (AMNEWSS) Network. The AMNEWSS covered 41 trading centers in selected major marketing outlets in the provinces, 15 markets and 4 supermarkets in Metro Manila. Twenty-three (23) public markets are located in Luzon (including Metro Manila), 7 in the Visayas and 12 in Mindanao. Two important



wholesale markets dealing in agricultural products, Divisoria and Cloverleaf, a wholesale fish market in Navotas, and the Vitas abattoirs, were among the 15 markets covered by the AMNEWSS daily report in Metro Manila. Weekly, monthly and yearly price averages of these commodities were compiled for use by researchers, and for time series analysis to project future prices of such commodities. Reports on the secular trend analysis, seasonal trend on chicken broiler and analysis of egg marketing data, were prepared. All these information are necessary for sound policy and decision-making affecting the marketing of commodities, particularly by the agricultural sector.

Aside from the foregoing market price survey, the farm price survey was also conducted by the Bureau. This survey was conducted during the year in 70 provinces, excluding Batanes, Tawi-Tawi, Aurora, and Maranao and 2 cities (Davao and Zamboanga). Five survey rounds were undertaken, covering 6,200 barangays. Prices received by farmers for 57 items were surveyed during these rounds.

Analyses of raw data were undertaken, such as the price index series of 1957 to 1978 which were computations of seasonal indices for banana, cassava, and camote, etc.

The Market Assistance Center (MAC) project was continued, with the establishment of a second MAC pilot center this year in Nueva Ecija. It will be recalled that the first was established in Atok, Benguet in 1978. Seminars were conducted for farmers and traders. Monitoring was undertaken on the marketed quantities and prices of selected vegetables at Divisoria coming from Baguio and Atok. Reports covering May, June-September were prepared for these activities.

Monthly consolidated reports were prepared and disseminated on the 36 livestock auction markets in the Philippines. The Livestock Auction Market Evaluation Study was completed during the year in order to gauge the growth and development of the livestock programs of the country.

Marketing research studies were conducted for sustenance fishing and fishpond operations. A study on sustenance fishing was conducted in Pangasinan and Camarines Sur in order to determine the size of capital investments by sustenance fishermen as well as the costs and expenses incurred in their day-to-day fishing activities. Problems encountered by fishing operators and recommended solutions have been enumerated and analyzed.

The study on fishpond operations is in its final stage. This project did not only concern itself with marketing, but it also delved deeper into the

production aspect of fishpond operations. Another activity, the farm record keeping project, was launched in the provinces covered by the survey, namely, Pangasinan, Cagayan, Batacan, Masbate, Bohol, and Zamboanga City. This study was linked up with the Fishery Industry Development Council (FIDC) and the International Center for Living Aquatic Resources Management (ICLARM). Their collaboration widened the scope of the study.

The marketing of non-traditional export commodities (black pepper) was launched in November, 1979, in the province of Batangas. The survey covered 100 respondents in four black pepper-producing municipalities of San Jose, Lipa City, Padre Garcia and Balete. Its objectives were 1) to determine the marketing costs and returns of black pepper growers; 2) to determine the marketing functions being performed at the farm level; and 3) to determine the channels of distribution of black pepper. As of December 31, 1979, editing, compilation and tabulation of survey returns had been completed. Summarization of data is half-way through. The target date for submission of the final report is May, 1980.

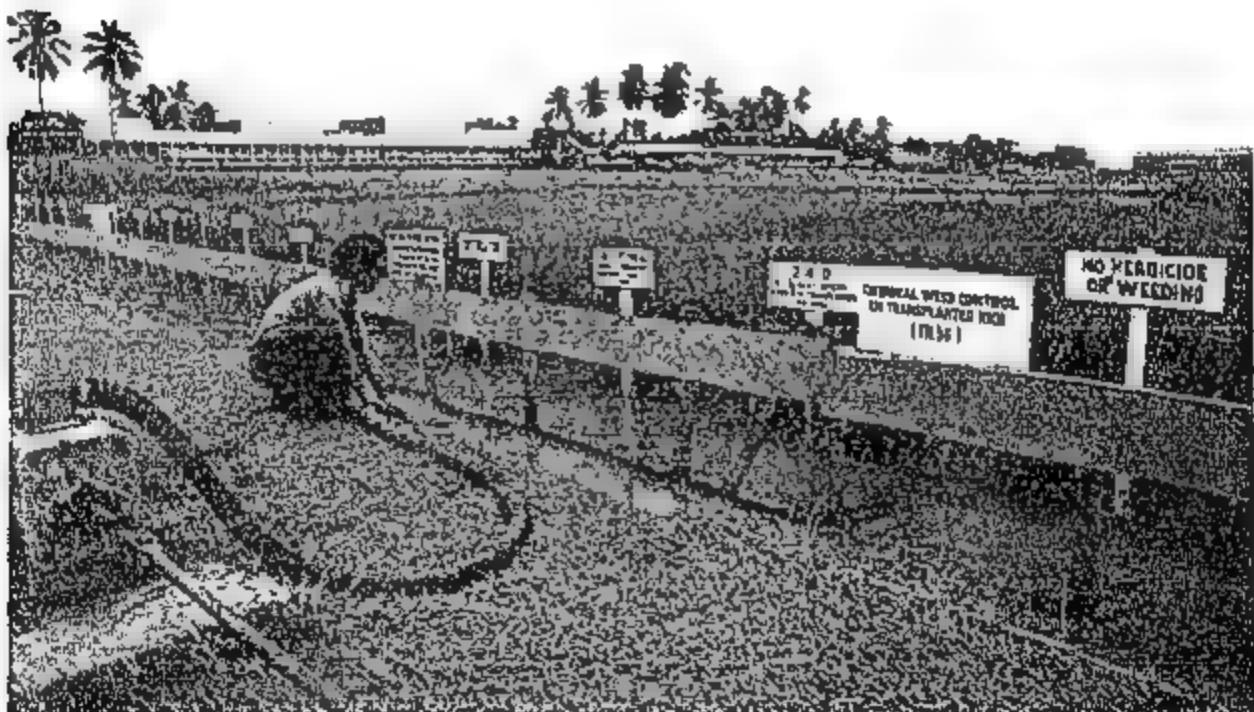
To give more emphasis to the government's drive on the production of protein-rich food, the Bureau launched in January, 1979, a study on the "Production and Marketing of Field Legumes in Pangasinan," legumes being a very rich and cheap source of protein. The study was concentrated

only in two legume crops, namely, mongo and peanut. Due to budgetary limitations, the study covered only Pangasinan, it being one of the major producers of these crops. The study is almost completed.

Activities on the Bureau's Project ADAM were continued. Research personnel have completed the agricultural profiles of the following regions: Ilocos Region, Cagayan Valley, Bicol Region, Central Visayas, Central Mindanao and Northern Mindanao. Work on the agricultural profiles of Southern Tagalog, Eastern Visayas and Western Visayas, is underway (50 per cent complete). Along with this project is the "Farm Technology Study in Palay, Corn and Sugarcane," which is also half-way through.

Socio-economic studies were conducted in the following areas: lowland rice farms for crop year 1978-1979; Maisan Program, crop year 1975-1976; municipal and sustenance fisheries; small scale coastal fishing in Leyte and the socio-economic studies of Clark Air Base Reservation Area. By year's end, all of these studies would have been finished, except for the Socio-economic Studies of Clark Air Base Reservation Area, which is on the winding-up stage release of its preliminary report.

A study on pest inputs for crop year 1977-78 was completed in June. The project concentrated on input utilization with specific



emphasis in their application on palay. Information was obtained on the estimated current costs and returns of palay production. It also provided an analysis of the input-output relationship between Mesagana 98 participants and non-participants.

A study on "Capital Investment and Export Potential of Philippine Toffee" was conducted to provide information on the capital invested in coffee, as well as the feasibility of coffee as a potential export crop. The project is still underway and survey returns are in the process of compilation.

To identify substantially the kind of agricultural project best suited for a particular province, a study was necessary on the kind of natural resources, climatic factors, topographical characteristics endowed by a particular province. Hence, the study—Profitability and Viability of Farming Systems in Luzon Provinces—was initiated for this purpose. Total accomplishment of the project stands at 50 per cent.

Conducted on a quarterly basis were the agricultural labor surveys, which would provide information on the average wage rates of farm workers in the Philippines. For 1979, the Bureau was able to publish data on the wage rate to farm workers by kind of farm and by region covering crop years 1977-1978 and 1978-1979.

Short term research undertakings were conducted on the commodity situations of some crops, namely: cassava, sweet potato, coffee, garlic, cacao, corn and sorghum. Among others, the study dealt on general information regarding quantity of production and marketing aspects, such as marketing channels, marketing practices, prices and seasonal variations, costs and returns and production projections, etc. Recommendations on increasing productivity and profit in raising said commodities were spelled out for prospective growers.

The training and education program continued to be a major activity of the Bureau. Under the BAEcon/Ford Foundation Staff Development Program, seventy-seven (77) out of the overall total of seventy-nine (79) scholarship slots had been given to BAEcon personnel after five years of the program.

After having trained a substantial number of personnel at the Central Office, the Bureau started conducting its seminar-workshop in Statistics for field personnel, particularly in Regions III and X. The Bureau's target is to train most of the technical personnel in the field. All these are aimed to enhance their technical capability in rendering support services to the country's agricultural development programs.

BUREAU OF SOILS

The Bureau of Soils made significant contributions to the Ministry's continuing efforts at exploiting the basic data generating project in the survey, classification and mapping of the soil resources of the country. In addition to soil survey, other agricultural data gathering activities such as land capability classification, economic land classification of arable and irrigable areas, and special soil investigation were also conducted. A foreign-assisted project—the BS-UNDP Land Resources Appraisal and training project—also undertook for CY 1979 the inventory and/or appraisal of the land resources of the provinces of Palawan, Marinduque and Metro Manila areas. The aforementioned survey and classification activities were all pursued in accordance with the integrated area development approach under the aegis of the National Economic and Development Authority. In terms of the type or the detail involved in the conduct of the classification or appraisal and mapping of the country's soil and land resources, the hectarage covered for the calendar year under review were, as follows.

Type of Survey	Area Covered (Ha.)
Detailed soil survey	442,643
Semi-detailed soil survey	887,524
Reconnaissance land resources appraisal	1,827,100
Present land-use and/or land classification	225,775
Special soil investigation	204,902
Total	3,387,944 Ha.

To conserve the soil and preserve and/or improve its fertility for sustained production, the Bureau of Soils has vigorously pursued a soil and water conservation and management project specifically in areas where loss of soil cover has been found critical. A total of 34,404 hectares had been placed under erosion control either through vegetative or mechanical means. On the other hand, the guided farm activity of the Bureau, which is an information and education campaign as well as actual assistance to farm operators, has won over the acceptance of farmer-cooperators in conservation farming. Cooperators received technical assistance in the form of drawn up farm plans based on the farm's soil characteristics, topography, land capability, water supply or climate conditions of the area, as well as considerations regarding the cooperators' managerial skills and financial capability. In many such farms, the design and the laying

out of irrigation and drainage networks boosted the farmer's income which otherwise would have remained comparatively low due to inefficient use of water and poor soil management. An aggregate area of 18,851 hectares benefited from the guided farm activity of the Bureau, or about 1,124 farmer-cooperators.

One noteworthy activity the Bureau of Soils has been implementing is water impounding, the execution of which may be divided into specific activities with corresponding accomplishments under each and enumerated, as follows:

Water Impounding Specific Activity	Area Covered/ Units Constructed
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Feasibility Study:

1) Watershed Area	3,575 Hect.
2) Irrigable Area	2,001 Hect.

Construction of Water Impounding Structure:

1) Irrigable Area	500 Hect.
2) No. of farmers served	25 Farmers
3) No. of structure (concrete dam)	1 unit

In 1977 a hillside farming project was planned as a pilot project to be introduced in Regions 1, 2, 4, 7, and 8. A pre-feasibility study was conducted in 1978 on 13 project sites at 5,000 hectares per site or an aggregate of 65,000 hectares. In

the same year, the bureau was able to implement the second phase of the project which involved feasibility studies of six other sites covering 24,500 hectares. For CY 1979 two sites were included in the feasibility study covering 9,330 hectares.

In support of the nationwide food production program and to amass field data for a more efficient and economic use of fertilizers, the MA, through the Bureau of Soils, has a continuing soil fertility project covering the 12 regions involving the application of fertilizers in the production of rice (irrigated, rainfed and upland), corn (white and yellow), vegetables, legumes, feedgrains and economic crops (abaca, Virginia and native tobacco, cassava, cotton and sweet potato). The specific activities and the number of trials performed under each were as follows:

Specific Activities	No. of Trials Performed
Soil fertility investigation	2,157
Multiple cropping	
1) rice-and corn-based demonstration	135
2) rice-and-corn based applied research	80
Field fertilizer verification and compost making and usage	125
Total	2,497



The soil laboratory support to the field fertilizer trials conducted consists of soil sampling and analysis where 172 soil samples were analyzed.

The agricultural research endeavor of the Bureau specifically in the field of soil-crop-water relationship is relegated to the Soil Research Project.

At the start of CY 1979, there were 49 ongoing research studies of which one study terminated at the close of the year insofar as the field or greenhouse portion of the research activity is concerned. The other research study was on the isolation of rhizobia from lime bean, mungo, cowpea, snap bean, garden pea and soybean, which was performed at the bureau's research station located at Atabang, Muntinlupa.

Laboratory services consisting of soils testing (NPK), alkalinity/salinity tests, trace element analysis accounted for 91,809 samples analyzed by the regional and district laboratories. The analysis of these samples was a direct service to rice, corn, truck and fruit farmers in determining the kind and quantity of fertilizer for their 1979 farming operations. In addition, the soils laboratories also performed 13,263 soil characterization (physical and chemical properties) analysis as a support to the basic data generation project and research project of the MA and other ministries. Another 8,490 analytical tests were also performed on various plant tissues and fertilizer samples submitted by farmers, the private sector and researchers. In the field of legume production, the Bureau of Soils was able to distribute 19,606 packets of soil inoculants.

NATIONAL GRAINS AUTHORITY

In a sense, the history of the country's grains industry did not reach its climatic period until the advent of the last three or four years when the government thru the NGA launched its various cereal production and systematic and effective marketing programs. From there, the industry steadily rose into a very potent economic force capable of sustaining the cereal food needs of the country.

The year 1979 saw the Philippines firm up its position as a reliable rice exporter when it concluded additional contracts with Indonesia, Malaysia and Brazil. The total volume contracted in 1979 reached 209,708 metric tons valued at \$56.0 million. This brings the country's total exports since 1977 to 300,823 metric tons worth \$82.7 million. To date, the National Grains Authority has so far delivered 240,733 metric tons, with the shipment of the remaining balance expected to be fully completed by February of next year.

The following is a breakdown on rice exports:

Country	Volume	Total Value
Indonesia	154,037 M.T.	\$40.7 M
Malaysia	84,394 M.T.	28.0 M
Brazil	62,392 M.T.	16.0 M
TOTAL	300,823 M.T.	\$82.7 M

The past year saw a much reduced importation of yellow corn due to the big corn harvest in Mindanao, from 105,839 metric tons in 1978 to



only 34,574 metric tons in 1979 or a decrease of 67 per cent.

As for wheat, total importation in 1979 was 791,101.82 metric tons or 6.6 per cent higher than in 1978. Part of this, however, is the 2-month buffer stocks maintained as allowance for delays in vessel arrivals and to ensure continuous supply of wheat flour. The supply of wheat flour remained favorable and the price stabilized as National Grains Authority brought in more cargoes before the typhoon season and flour action groups mobilized to monitor closely supply and prices.

Of the 102,000 metric tons soybean meal contracted, 78,087 metric tons or 77 per cent arrived in 1979 and the balance is due for shipment next year. However, total arrivals including part of the volume contracted in 1978 reached 123,595 metric tons, which is about four times the quantity imported by NGA in 1978. This is mainly due to huge inventories held by the private sector in 1979 when NGA was authorized to solely undertake the importation of soybean meal.

Total grains importation in 1979 were as follows:

	1978	1979	% Increase/(Decrease)
Wheat grain	742,004 M.T.	791,102 M.T.	6.6% increase
Yellow corn	105,839 M.T.	34,574 M.T.	(67.3%) decrease
Soybean meal	49,901 M.T.	123,595 M.T.	147.7% increase

The NGA had also surpassed its procurement record for the last seven years with its 1979 accomplishment totalling 770,714 metric tons (15.4 m bags) of palay, white corn, and feedgrains. In this, the NGA flowed P947 M to further accommodate the farmers. The increase in procurement, however, was mainly on palay, from 509,672 metric tons (10.1 m bags) in 1978 to 704,686 metric tons (14.0 m bags) this year, due to the good crop and

marketing incentives, such as the increase in the government support price to P1.30/kg, made effective in April. In corn and feedgrains, procurement dropped by 69.39 per cent and 52.91 per cent, respectively, this year, on account of poor harvest due to drought and pest infestation in some parts of Mindanao. By year's end, the cereal procurement position was as follows:

	1979	1978	% Increase/(Decrease)
Palay	704,686 M.T.	509,672 M.T.	38.26% increase
White corn	49,318 M.T.	181,134 M.T.	(69.39%) decrease
Feedgrains	18,710 M.T.	35,489 M.T.	(52.91%) decrease
TOTAL	770,714 M.T.	706,295 M.T.	9.12%

In contrast to the heavy procurement, NGA's market injection for rice was very minimal. In fact, it was lower by 55 per cent than in 1978 due to abundance of commercial supply. Although corn production was not as favorable as in 1978, corngrits sales were likewise lower because of the big carryover stocks of both the government and the private sectors. However, white corngrains sales

for the manufacture of mixed feeds increased as there was more supply of white corn than yellow corn. Despite the continuous shipment of rice for export, our rice stock inventory was still higher at any one time this year compared to past years. As of December 31, National Grains Authority stocks settled at the following levels:

	1979	1978	% Increase/(Decrease)
Rice	730,000 M.T.	608,000 M.T.	43.7% increase
Corngrits	47,818 M.T.	110,000 M.T.	(56.6%) decrease
Feedgrains	6,300 M.T.	19,050 M.T.	(67.0%) decrease
TOTAL	784,118 M.T.	637,050 M.T.	23.1%

For this reason, the NGA has, as in previous years, succeeded in stabilizing cereal supply and prices throughout the country, despite the price increases in fuel and most of the basic commodities.

Along infrastructure and post-harvest technology is the NGA's feat in the construction of grains warehouses. In a period of only four years, the NGA was able to establish a record-breaking 202 new and modern warehouses strategically located in grain production and distribution centers throughout the country. Construction cost for these units amounted to P198.5 M, establishing the country's storage capability to a total of 17.8 M bags.

For 1979 alone, 84 new warehouses valued at P97.4 and with an aggregate capacity of 9.18 M bags were constructed and 13 more units are under construction, which, when finished, are expected to generate an additional government storage capacity of 1.65 M bags.

Aside from these conventional warehouses, the NGA has made a stride in the establishment of bulk storage facilities by putting up a total capacity of 253,000 bags.

The NGA has continuously beefed up post-harvest facilities and equipment to lend full support to the requirements of its procurement and other operations. To date, it has acquired 613 units of driers, 151 threshers, 143 corn shellers, 72 mills, 1,088 moisture meters, 1,254 platforms scales, and other equipment like fogging machines, sprayers and warehouses tents. Many of these facilities, particularly mechanical driers, have been locally

fabricated. Its drying capacity nationwide is 2,832 tons per 12-hour operation and its total milling capacity, on the other hand, is 720 tons per 12 months.

The continuing establishment and improvement of post-harvest facilities and systems have resulted on a breakthrough in reducing post-harvest losses of grains. Despite the ever-increasing volume of grains that it handles, NGA has succeeded in keeping to the barest minimum losses resulting from infestation and spillage. In the warehousing process alone, it has reduced grain losses from 5 per cent to less than 1 per cent.

As a fitting recognition of its achievements in the field of post-harvest technology, the Rice Group of the Food and Agriculture Organization held its 22nd session in Manila early this year during which the Philippine experience in the grains industry was highlighted. The Philippines also played host to the latest meeting of the Asean working group on grains and two training programs on post-harvest sponsored by the Agricultural Productivity Office (APO), the Southeast Asia Cooperative Post-Harvest Research and Development Program and the NGA.

The NGA has completed the organization phase of the program to establish the National Post-Harvest Institute for Research and Extension (NAPHIRE). Establishment of the regional networks of the Institute, through the cooperation of various state colleges and agricultural schools in Nueva Ecija, Ilocos Norte, North Cotabato and Bukidnon is now in progress. Results of the 5 research projects started this year are expected to



benefit Samahang Nayon groups and private millers and warehousemen. The Mobile Technovan Project, an extension project to demonstrate the proper use of post-harvest equipment, will start early next year.

As in the past years, Economic and Technical Research Projects were undertaken as support to the successful implementation of its programs. It has expanded the monitoring system for price and supply indicators in the world market as the Philippine position as a net exporter of rice gained recognition in the international scene. Aside from technical researches to provide support for its efforts at reducing losses on post-harvest operations, NGA also undertook researches on product development. Started in 1979 and due for completion in early 1980 are the following projects: 1) Rice parboiling; 2) Commercial production of rice bran oil; 3) Rice Hull-Fed Power Thermal Plant; and 4) Cellulose-Based Plastic from Rice Hull/Straw.

A number of technical research projects undertaken last year were financed partially through research grants from other government agencies, International organizations and other governments such as the FAO, World Bank, OSA, US Wheat Associates, the International Development Research Center (IDRC), the Japanese and Australian governments, UPLB, PCARR, NSDB, and CLSU.

Extension seminars had been increased from 64 in 1978 to 95 this year and correspondingly increased extension work beneficiaries from 2,449 to 4,603. Technical assistance was rendered to 108 manufacturers of post-harvest equipment, most of them local manufacturers of driers, threshers, mills and graders.

Under its facility assistance program, NGA had leased to farmers some 181 units of threshers, 48 driers and 4 shellers. The impact of this program was felt throughout the year as area planted to palay increased and yields attained by farmers improved.

Along corporate farming, the extent of its implementation could clearly be measured in terms of the total investment plowed into the program (under G.O. 47) by the participating private firms, amount of which has now reached P263.1 M. This program which started in 1974 requiring big corporations to supply the cereal needs of their employees has produced as much as 4.07 million bags of rice, corn and other grains. Presently, there are 242 firms under G.O. 47 engaged in actual production, cultivating some 60,423 hectares benefiting 365,399 employees. As a result, small farmers and communities in newly-opened corporate farms continue to be direct beneficiaries of infrastructure

projects and social services undertaken by the corporations, not to mention the added employment opportunities being generated by the program.

Meanwhile, P.D. 1158 or the agricultural incentives priorities plan remains open to corporations as an alternative compliance to G.O. 47. This involves diversified agricultural ventures other than rice and corn production.

With regard to industry regulations, the number of grains businessmen licensed by NGA for the year 1979 totalled 87,308, exceeding last year's figure of 85,688 or by 1.89 per cent. This new increase of private citizens engaged in various lines of activity clearly indicates the continued viability of the grains business. The total license fees generated for the year reached P11.08 M as compared to the previous year's P8.02 M.

As a manifestation of the growing discipline among the sectors in the grains industry, noted violations of NGA rules and regulations had dropped to an all-time low level. This year, only 6 business licenses throughout the country were cancelled and those violations noted were minor ones, ranging from non-display of license and price tags to isolated cases of over-pricing. To this effect, NGA has increased its information drive on regulations among those engaged in the rice industry.

Under the grains queden system, there are now 700 bonded warehouses operating throughout the country, 49 of which were newly established. Of the total bonded warehouses, there are seven franchised warehouses operating in Nueva Ecija, Pampanga, Tarlac, Capiz and Negros Occidental.

The Grains Quedan Financing Program launched last year to generate additional working capital for grains millers and traders, has so far generated P6.6 million in loan releases by participating banks. At year's end, 54 warehouse operators were granted special franchises, while 39 applications for franchise were under process. Twelve government, commercial and rural banks are actively participating in the program with 4 commercial and 9 rural banks expected to participate in the venture.

An insurance subsidiary called the Grains Insurance Agency Corporation (GRAINSCOR) has gone into full operation this year, servicing the various insurance requirements of grains businessmen as well as the NGA. In its eight-month period of operation, the Grainscor was able to earn a net income of P322,393 from gross commissions amounting to P810,470.00.

The NGA has continued to assist private grains associations throughout the country. To date, a total of 649 associations with a total membership of 33,249 has been formed. This year, the

NGA assisted in the regionalization of provincial baker's associations that led to the creation of the National Federation of Baker's Associations. A total of 31 provincial grains industry interrelations committees were also organized in various provinces. All these associations would serve as the forums for the ventilation of industry problems and the formulation of corresponding solutions.

The NGA has continued its policy of maintaining a corps of honest, dedicated and efficient personnel and has kept the morale of its employees at the highest level possible by matching its manpower development programs with a continuing effort to provide maximum incentives and benefits to its employees. Hand-in-hand with this policy, it has also maintained a firm hand versus erring personnel who goes afoul against the set standards of public service. In the last seven years of operation, the NGA has filed some 292 administrative cases involving 294 employees, and a total of 78 erring personnel were dismissed from the service. As of December 31, 1979, its personnel complement stood at 9,015 spread over its regional and provincial offices.

Summing it up, NGA's assets increased tremendously over the last seven years, from P892 M in 1973 to P3.8 B as of September 30, 1979. Of special mention is the fact that the property, plant, and equipment assets went up from only P3 M in 1973 to P393 M in September 30, 1979. Its net income of P50.6 for 1979 was slightly higher than in 1978, while sales increased from P1.78 B in 1978 to P2.24 B this year.

The NGA, therefore, looks forward to a new decade with more challenges for the continued and full development of the country's grains industry.

PHILIPPINE VIRGINIA TOBACCO ADMINISTRATION

There was much optimism at the Philippine Virginia Tobacco Administration in CY 1979 as the year in review ended with a successful Virginia tobacco crop. Because of the massive and sustained export promotions program not only on the expansion of trade opportunities in existing markets, but also in the diversification of its export outlets in both traditional and non-traditional markets of the world, the country's exports of aromatic tobacco in 1979 increased by 23.74 per cent in volume. Exports totalled 12,820,203 kilos valued at \$16,131,880 as compared to 1978 exports which aggregated 10,360,335 kilos worth \$16,044,669.00.

During the year in review, the PVTA adopted appropriate measures to ensure the proper and strict enforcement and implementation of trading rules and regulations so that tobacco farmers may enjoy the full benefits of the government's tobacco program. Along this line, a total of 42,892,437.58 kilos (valued at P249,219,085.84) were purchased from 133 trading centers duly licensed by the PVTA to operate in the Ilocos Region, broken down as follows:

Province	Kilos	Value
Abra	1,258,251.5	P 6,118,134.32
Ilocos Norte	8,711,182.1	40,636,211.035
La Union	13,074,956.68	76,518,114.04
Ilocos Sur	21,848,047.3	125,946,826.47
TOTAL	42,892,437.58	P249,219,085.835



With the new lending program known as the Virginia Tobacco Trading Loan Fund (VTTLF) launched and implemented this year to complement the PVTA's Integrated Agricultural Financing Program (IAF) as source of operating funds, the profitability of tobacco trading was assured for exporters, cigarette manufacturers, and trading centers. The integration, therefore, of the IAF and the VTTLF has a profound effect upon the yearly

tobacco trading. It has a two-pronged attack against the problems vis-a-vis the Virginia tobacco growers, on the one hand, and the seasonal lack of financing confronting the trading centers, on the other hand. The VTTLF program was implemented with an initial fund of P50 M. A total of P10,160,000 was granted to 8 loan beneficiaries during the year in review, to wit:

1. Galaxie Tobacco Corporation	P 4,000,000.00
2. PTFC and RC	4,000,000.00
3. GH Leaf Tobacco TC, Candon, Ilocos Sur	400,000.00
4. GH Leaf Tobacco TC, Sta. Merla I.S.	400,000.00
5. Bright Leaf TC, Bacnotan, La Union	400,000.00
6. Bright Leaf TC, San Fernando, La Union	400,000.00
7. Felisa/Consuelo Tiu	160,000.00
TOTAL	P10,160,000.00

On the other hand, as of December 31, 1979, the IAF likewise granted a loan to the Virginia Tobacco growers in the aggregate amount of P32,371,441.00

The PVTA has pursued the national government's efforts to restore the forest covers of the country, specifically in the Ilocos Region with the approval and immediate implementation of the 1979 PVTA Bayani (giant ipil-ipil) Seedling Nursery and Tree Planting Project with a project cost amounting to P226,781.50

A more expanded research program was undertaken by the PVTA. The approval and the immediate implementation of 5 research studies and projects on energy development conservation in aromatic tobacco curing, as well as the approval to construct two flue-curing barns in Bangui, three in Batac and one in Vintar were part of the agency's relentless drive for developing low cost and efficient curing system for Virginia, burly and Oriental tobacco, and improved tobacco technology.

The training and education program continued to be a major activity of the PVTA. Various seminars/workshops for its officials and employees were conducted as part of its human resource development program to upgrade their technical proficiencies, knowledge and skills.

A total of 16 scholars had already graduated: 13 in Bachelor of Science in Agriculture (BSA) and 3 in Bachelor of Science in Agricultural Engineering (BSAE). Ten of these graduated scholars are now employed with the PVTA and assigned at the different research stations; while 3 of them are presently pursuing their Master's Degree in Agriculture at UPLB. Cultural and sports development has been integrated in its overall program. It maintains

and supports a choral group known as the "PVTA Chorale." The PVTA pursued a year-round sports development program to foster physical fitness, discover new athletes and develop promising materials for higher competition.

Among the other significant accomplishments of the PVTA for CY 1979 were: 1) approval by the President of the Philippines increasing floor prices of Virginia tobacco of Grades A,B,C,D, and E to P10.00, P9.00, P8.00, P7.25 and P6.75, respectively, and also setting the minimum price of P3.50 for good reject tobacco. This upward adjustment in the price of tobacco assured the farmers of a reasonable margin of profit or return for their labor and investment to cope with the soaring cost of production and living costs; and 2) the approval of the Ilocos Region Fuelwood Development Program under LOI 868, a joint project of the PVTA and the Ministry of Natural Resources to hasten the reforestation of denuded mountains of the North, particularly those within the Virginia tobacco-producing provinces and to provide sufficient supply of fuelwood to the Virginia tobacco industry. The effects of this program on PVTA's accomplishments were positive as the activities were marshalled into and resulted in a) organizing a provincial coordinating committee in each of the four provinces, which consulted with the Program Technical Committee; b) identifying and surveying of 6,751 hectares for potential plantation sites; c) establishing and maintaining 171.8 hectares planted to 429,000 giant ipil-ipil seedlings in Abra, Ilocos Sur, and La Union; d) establishing 8 nursery sites with a projected total production of P14.4 worth of ipil-ipil seedlings; and e) conducting baseline information survey on tobacco farmers and private owners.

PHILIPPINE TOBACCO ADMINISTRATION

Calendar Year 1979 saw the Philippine Tobacco Administration beset with the problem of funding due to its unreleased appropriations. Nevertheless, the PTA was able to pursue progressively its developmental programs, with the ultimate and consuming objective of making the individual cigar-tobacco grower produce more in each of the top grades of cigar-leaf tobacco and maximize his tobacco production or the yield per hectare of tobacco through: plant breeding; use of proper variety and certified seeds; use of low cost compost fertilizer of proper quantity per hill, applied at the proper time and placement; use of irrigation water at the proper volume and time to minimize the effects of drought; proper application of proper insecticides at the proper rate, time and frequency; harvesting at the proper leaf maturity, proper leaf curing with the use of properly constructed curing barns; and the proper use of air traffic movements.

It laid the foundation for a development-oriented approach to the proper solution of problems besetting the industry. It launched its two-year "crash program" designed to accelerate the improvement of the general quality of tobacco produce, enhance the competitiveness of Philippine cigar leaf tobacco in the international markets, and uplift the living standards of hard-pressed tobacco growers. This necessitated some radical and aggressive changes in management policies and approaches. The area programming approach to the production of uniform high-quality tobacco exports, which limits production only in most suitable lands, was adopted. Necessarily, prioritiza-

in the extension of credit and the buying of cigar leaf tobacco were radically changed or amended to conform with this approach. The grade-by-grade system and the abolition of traditional 10 per cent allowance for shrinkage were strictly enforced in its buying operations. Procedures for registration of tobacco growers and the extension of credit were restructured to instill into the minds of growers that they are partners in the business of enhancing the growth and development of the cigar tobacco industry and should, therefore, develop discipline and assume responsibilities.

This year, the PTA amended its loan policy increasing the maximum ceiling for production loan from P1,500 to P1,800 per hectare to enable growers to cope with the rising costs of agricultural inputs and labor. A total of 899 borrowers were extended production loans valued at P686,422.75.

Isabela topped the list of borrowers with 563 borrowers or 62 per cent, with a total loan of P456,264.00 or 77 per cent, followed by Cagayan with 130 borrowers or 14 per cent with a total loan of P49,576.40 or 8 per cent. La Union was third at 77 borrowers or 8 per cent with a total loan of P52,770.70 or 9 per cent. Leyte had 87 borrowers or 9 per cent, but loans granted amounted to only P2,574.40. The rest of the production loans were distributed among borrowers from other tobacco-producing provinces.

One of the major causes of the deteriorating quality of tobacco produced is due to prolonged sun-drying of the leaves, which naturally interrupts the natural chemical reactions in the leaf cells. Although drying is hastened, it results in non-elasticity and brittleness of the leaves accounting



for less recovery and less acceptability and bordering non-descript or reject, thereby resulting in lesser usability and very low price offer.

Hence, the PTA in 1979 embarked on a more aggressive loaning program and extended a total amount of P366,680 in facility loans for the construction or repair of curing barns. Forty two curing barns were constructed and 29 existing ones were repaired totalling 71. Some 780 second-hand GI sheets valued at P11,938 were loaned out to 23 tobacco growers.

Aware of the value of showing by example to make effective the transfer of technology, 92 demonstration farms were set-up under the PTA-PPI demonstration farm project, 112 under direct PTA assistance and 16 in PTA communal farms.

Complementary to its regular extension projects, the PTA in 1979 distributed 95 kilos of Vizcaya seeds and 8.5 kilos of Simmaba seeds to 950 growers, respectively. Compost making was also intensified and 1,078 compost pits and 101 compost piles were constructed for 16,386 growers all over the country.

Research being a major vehicle for the development of the cigar tobacco industry, PTA laid the foundation for more extensive and exhaustive research studies during the next decade by purchasing sophisticated and modern laboratory equipment. Collaborative research studies with the Bureau of Plant Industry, Southeast Asia Research Center for Agriculture (SEARCA), Philippine Tobacco Research and Training Center (PTRTC), Isabela State University (ISU), Planters Products, Inc. (PPI) and other research agencies were also pursued and accelerated. To improve the research capabilities of its research personnel, the PTA sent a ranking research official to a one-month training in Nairobi, Kenya, and several delegates to research conference in Europe and the United States.

Through PTA's initiative and subsequently endorsed by the Philippine Virginia Tobacco Administration (PVTA), Philippine Virginia Tobacco Board (PVTB), Philippine Tobacco Research and Training Center (PTRTC), University of the Philippines Los Baños, Laguna (UPLB), Southeast Asia Research Center for Agriculture (SEARCA), Philippine Council for Agriculture and Resources Research (PCARR) and Bureau of Plant Industry (BPI), the 7th International Scientific Tobacco Congress of the "Coresta" — acronym for Center of Cooperation for Scientific Research relative to tobacco — will be held in Manila at the Philippine International Convention Center from November 10-14, 1980. This will bring into the country an aggrupation of tobacco scientists who

will not only afford the country the opportunity of learning first-hand information on the results of scientific studies on tobacco, but also give growers and manufacturers a deeper insight into the moods and desires of Philippine cigar leaf tobacco importers.

Pursuant to its price stabilization function, the PTA established buying stations in tobacco-producing towns all over the country. The PTA bought tobacco under the grade-by-grade system and continued with the policy in implementing more aggressively the total abolition of the traditional 10 per cent shrinkage allowance from the growers crop before payment. An incentive fee of 15 centavo per kilo was also given to tobacco growers who sell their tobacco produce already bundled in peso-coin size. Because of the active participation of PTA during the first two months of trading with support prices higher than the Philippine Tobacco Board's fixed floor prices, private sector buyers had to compete in prices with each other to corner a bigger share of the crop for the export market. Under its price stabilization plan, the PTA purchased 328,720.15 kilograms of cigar leaf tobacco at PTA floor prices on grade-by-grade basis, valued at P1,169,387.26. This time, PTA did not incur any losses in buying. It likewise discontinued the buying system of "mayores" and "menores" which corrupted warehousemen and classifiers.

In July, 1979, the PTA petitioned the United States Government to include Philippine cigar tobacco for duty-free treatment under the U.S. Generalized Scheme of Preferences. A PTA trade mission officially submitted the Philippine petition to the U.S. federal government. It also called a tripartite conference of the tobacco growers, private sector representatives and the government (PTA, BPI, BIR) to discuss, among others, the cost of production for all types of cigar leaf tobacco, floor prices for each cigar tobacco type and the restructuring of the present marketing system to provide a more balanced relationship between production and marketing and the equitable distribution of income. A number of resolutions were approved by all sectors of the cigar tobacco industry for approval by the Philippine Board, and a proposed LOI restructuring the marketing system was prepared and submitted to the President, through the PTA, for approval. These gestures of cooperation by the private sector visualized a healthy and harmonious relationship existing among all sectors now and the years to come. By this token, therefore, a brighter prospect for the faster development of the cigar tobacco industry in this country is guaranteed.



ABACA INDUSTRY DEVELOPMENT AUTHORITY

Progress made in providing continued leadership and support for the integrated development of the abaca industry during the one-and-a half years of actual operations of the AIDA has been the subject of a special review this year. Created upon promulgation of PD 1208 on October 8, 1977, the Authority has successfully attained its objectives as mandated in its charter. During the year in review, AIDA has been at the forefront of revitalizing the abaca industry by way of stimulating the demand for abaca and abaca-based products both locally and abroad. Along this line, two marketing missions were sent abroad in 1979 to establish direct contacts with traditional buyers in an effort to push more sales of abaca fiber and its by-products. Likewise, paper companies which have used abaca at one time or another in the past (i.e. Sorg Paper Co., Rising Paper Co., and Paper Co., etc.) were contacted for purposes of exchanging technical and marketing information and renewing their interest in the use of abaca as a pulp material. AIDA actively undertook the promotion of new products and processes, such as general purposes pulp, utilizing lower cost abaca fiber materials for purposes of manufacturing of new products and processes, such as general purposes pulp, utilizing lower cost abaca fiber materials for purposes of manufacturing shopping bags, tracing paper and vacuum bags.

With the end in view of convincing major buyers that regular and planned purchases of fiber work best in favor of all sectors of the industry, successful conferences and talks with the major processors in the U.S., the U.K., Germany

and France (i.e. C.H. Dexter Corp. Crompton Bros. Manning, Sweiter, Papiteries Ballore, Scholler and Hoesch) were held this year. Major consumers were successfully convinced to abandon their past "buying at short intervals" practice which only resulted in market confusion, unnecessary speculation and the volatile upward and downward fluctuation of prices.

A paper was also presented to the Technical Association of Pulp and Paper Industries (TAPPI) of the U.S., centering on the qualities of abaca as "super pulp" and "super fiber" for use in many specialty paper fields such as meat casing, base paper, absorbent cover stock for disposable diapers and microglass filter papers, tea bags, stencil tissue and the recently-developed plug wrap for low tar cigarettes. A full scale study to arrest erratic price fluctuations and stimulate prices to levels remunerative to producers was given due emphasis. Attempts to increase hectarage have been temporarily suspended in favor of rehabilitation of existing plantations until planters could be definitely assured of remunerative income levels with minimized risks of losses due to depressed prices. Under this scheme, prices of hand and spindle-stripped fibers were established at levels 65-70 per cent and 55-60 per cent higher than the 1978 prices, respectively. For hand-stripped fibers, highest price increases were posted by I, Y2, S2 and G; while for spindle stripped fibers, highest increases were for grades S2 and I.

An international mechanism to buoy up and stabilize prices was also introduced by the AIDA during the 13th Inter-governmental Session of the



Food and Agriculture Organization (FAO) on abaca. This proposal fixes the minimum and maximum prices of abaca fibers which may be sold to world consumers citing inflation, increased agricultural wages, increased production costs, higher international marketing and freight costs as reasons for an upward adjustment of the indicative price ranges. It succeeded in convincing the international abaca community to ease the indicative price levels by a minimum of 25 per cent. This means representative excellent cleaned abaca fibers cannot be sold lower than \$788 per ton, but not higher than \$1,062 per ton; while representative good cleaned fibers have a minimum of \$684 with a maximum of \$944 per ton. Increased exports for the purpose of generating more dollar revenues, from abaca and abaca manufacturers had been vigorously promoted by AIDA. For 1979, AIDA targeted a 21 per cent increase in total dollar earnings from 1978 \$38 M exports of abaca manufacturers. All indicators show that total industry performance has exceeded this targeted 21 per cent growth rate in 1979 while generating an all-time high of over \$50 M in export revenues.

The AIDA has consistently been actively campaigning with major paper manufacturers abroad to purchase abaca in pulp form instead of fiber. Consequently, increase in the export of abaca pulp has been noted due particularly to the increasing confidence of foreign paper manufacturers in the quality of Philippine made abaca pulp.

For the fiscal year in review, AIDA undertook and completed several studies on abaca marketing, among which are:

**Profile on Abaca Lands and Land Reform* — An exploratory study of the existing tenure system in abaca farms conducted to evaluate the applicability of the land reform program to abaca lands.

**Feasibility Study on Copra and Grain Sacks* — A study conducted to determine the feasibility of manufacturing abaca sacks as agricultural containers specifically for copra, palay and corn. This is one of the studies

undertaken by the Marketing Department in the hope of expanding the uses for abaca and stimulating demand.

**International Fiber Flow* — A study highlighting the pattern of world abaca exports of the Philippines and Ecuador on aggregate and on a per country, per grade, and volume basis.

**Abaca in the Western World* — A report regarding the history of abaca plantings in countries outside the Philippines.

As part of its continuing efforts to develop and diversify the market for abaca and promote abaca-based products and manufactures, AIDA has participated actively in the Philippine Trade Exhibits, PHILTRADE Center at Roxas Boulevard. Also, part of the research to diversify the uses of abaca, AIDA has undertaken feasibility studies for the manufacture of grain and copra sacks made out of abaca. In this connection, AIDA signed a Memorandum of Agreement with the NACIDA for the trial manufacture of these sacks which have greater tensile strength and durability and have greater re-use factors than other sack materials, such as maguey and jute. With the intensified sack production, the country is envisioned to have another dollar earning export product while effecting savings on dollar expenditures for the importation of jute, kenaf and other synthetic fibers currently being used for sack production.

Initial studies on the establishment of trading posts and buffer stocking have also been given greater impetus with the objective of stabilizing prices and assuring local processors of a steady supply of their abaca requirements.

These gains, among others, represent the initial benefits from the abaca industry. They can be expanded and, what is more important, made continuous with the proper leadership and guidance which the Authority has thus far provided. Its initial efforts provided unassailable proof that the abaca industry could be resuscitated and restored as one of the pillars of the national economy in the years ahead.

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THE REORGANIZED MINISTRY OF AGRICULTURE

The Ministry of Agriculture has made imposing strides to promote agricultural development of the country since its birth in 1916. And it can be proud of its leadership.

Changes in external economic climate and development priorities at home have, however, compelled the Ministry to shift gears sharply to cope with the critical challenges that lie ahead. Thus, in March 1980, concomitant not only with the goal of realizing new thrusts, but also to make the Agriculture Ministry more cohesively responsive to the government's agricultural development efforts, the organizational set-up was restructured and revitalized by President Ferdinand E. Marcos.

In brief, the old set-up where the Ministry of Agriculture had as many regional directors as it had bureaus had been modified so that instead it will now have only 12, chosen from among the 48 regional directors of the Bureau of Plant Industry, Bureau of Agricultural Extension, Bureau of Animal Industry and Bureau of Soils.

As reorganized, the following have been appointed Ministry of Agriculture regional directors and assistant directors:

Region 1 — Manuel Verquez, regional director; assistant for crops — Mauro Ordillo; assistant for livestock — Rogelio Signey.

Region 2 — Leonardo Cetral, regional director; assistant for crops — Alberto Dumiao; assistant for livestock — Gumerindo Lasam.

Region 3 — Segundo Serrano, regional director; assistant for crops — Teodomero Yñiguez; assistant for livestock — Renato Bulay.

Region 4 — Emigdio Fabella, regional director; assistant for crops — Mamerto Perez; assistant for livestock — Juan Umali.

Region 5 — Agustin Mago, regional director; assistant for crops — Baldomero Dagdag; assistant for livestock — Juan Joaquin.

Region 6 — Romeo Aquino, regional director; assistant for crops — Buenaventura Adriano; assistant for livestock — Giovanni Pasamba.

Region 7 — Celso Palma Gil, regional director; assistant for crops — Constantino Lucero; assistant for livestock — Crispulo Macasieb.

Region 8 — Rufino Ayaso, regional director; assistant for crops — Agapito Tauro; assistant for livestock — Rodolfo Quails.

Region 9 — Victoriano Sindayan, regional director; assistant for crops — Roberto Lim; assistant for livestock — Berdini Endaya.

Region 10 — Floramente Tailingdan, regional director; assistant for crops — Amanta Siapno; assistant for livestock — Magadapa Paporo.

Region 11 — Arturo Sarmiento, regional director; assistant for crops — Juan Solomon; assistant for livestock — Severino Recto.

Region 12 — Domingo de Guzman, regional director; assistant for crops — Mauro Arcega; assistant for livestock — Roger Chio.

